

SEQUENCE LISTING

<110> Walke, D. Wade
 Hilbun, Erin
 Donoho, Gregory
 Turner, C. Alexander Jr.
 Hansen, Gwenn
 BeltrandelRio, Hector
 Van Slightenhorst, Isaac

<120> Novel Human Kinases and Polynucleotides
 Encoding the Same, And Uses Therof

<130> LEX-0382-USA

<150> US 60/206,015

<151> 2000-05-19

<150> US 09/854,856

<151> 2000-05-14

<160> 64

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 7149

<212> DNA

<213> Homo sapiens

<400> 1

atgtctggcg	gcgccgcaga	gaagcagagc	agcactcccg	gttcocctgtt	cctctcgccg	60
ccggctcctg	cccccaagaa	tggtccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcggccgcg	accactacca	ccactgagca	ccgcttcttc	240
gcgcggagcg	tcactctgcga	ctccaatgcc	actgcaactgg	agcttcccg	ccttctcttc	300
tcctgcccc	agcccagcat	ccccgcggct	gtcccgcaga	gtgctccacc	ggagcccccac	360
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
gccgccccctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaagacc	gccagtgctc	ccagcctagc	cttgtgggga	gcaaagagga	gccgcccggc	540
gcgagaagtg	gcagcgccgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaaa	aggtctggac	720
actgaaacca	ccgtggaagt	cgcttggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gtagattttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	900
actgaactta	tgacgtcttg	aacacttaaa	acgtatctga	aaagggttaa	agtgatgaag	960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	cgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagatttg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccttgaga	tgtatgagga	gaaatatgat	1200
gaatccggtg	acgtttatgc	ttttgggatg	tgcattgctg	agatggctac	atctgaatat	1260
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtaggggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatggtgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggtctaaagc	tatcaaagac	1680
agagtatcat	taattagag	gaaacgagag	cagcggcagt	tggtacggga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860

gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccacgtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1980
tctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccattgggt	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	2160
cagccatcct	caagttagctt	aacagggggt	tcactttccc	aacctacata	acatcctcag	2220
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgacagta	ttcactttca	2280
cagacatcaa	cctccagtga	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagcttccag	tttcccagcc	agtaccaact	2400
atccaaggcg	aaccttcagat	ccagtttgcg	acacaacctt	cggttggtcc	agtcactctt	2460
ggtgtctcatt	tccttccagt	gggacagccg	ctccctactc	ccttgctccc	tcagttacct	2520
gtctctcaga	ttcccatatc	aactcctcat	gtgtctacgg	ctcagacagg	tttctcatcc	2580
cttcccatca	caatggcagc	tggcattact	cagcctctgc	tcacgttggc	ttcatctgct	2640
acaacagctg	cgatcccggg	ggtatcaact	gtggttctta	gtcagcttcc	aaccttctcg	2700
cagcctgtga	ctcagctgcc	aagtcagggt	caccacagc	tcctacaacc	agcagttcag	2760
tccatgggaa	taccagctaa	ccttggacaa	gctgttgagg	ttccactttc	ctctggagat	2820
gttctgtacc	aggaagtccc	acctcgactg	ccaccacagt	accaggaga	ttcaaatatt	2880
gctccctctt	ccaacgtggc	ttctgtttgc	atccattcta	cagtcctawc	ccctcccatg	2940
ccgacagaag	tactggctac	acctgggtac	tttcccacag	tggtgcagcc	ttatgtggaa	3000
tcaaactctt	tagtttctat	gggtgggtga	ggaggacagg	ttcaagtgtc	ccagccagga	3060
ggaggtttag	cacaagcccc	cactacatcc	tcccagcaag	cagttttgga	gagtactcag	3120
ggagtctctc	agggttgctc	tgcagagcca	gttgtagtag	cacagcccca	agctaccagg	3180
ccgaccactt	tggttctctc	tgtagacagt	gcacattcag	atgtgtcttc	aggtatagat	3240
ctgtgcaatg	agaacgtccc	atcttccagt	ggaaggcatg	aaggaagaac	tacaaaacgg	3300
cattaccgaa	aatctgtaag	gagtcgctct	cgacatgaaa	aaacttcacg	cccaaaatta	3360
agaattttga	atgtttcaaa	taaaggagac	cgagtagtag	aatgtcaatt	agagactcat	3420
aataggaaaa	tggttacatt	caaatttgac	ctagatggtg	acaaccccga	ggagatagca	3480
acaattatgg	tgaacaatga	ctttattcta	gcaatagaga	gagagtcggt	tgtggatcaa	3540
gtgcgagaaa	ttattgaaaa	agctgtgaaa	atgctcagtg	aggatgtcag	tgtggaacca	3600
gagggtgatc	agggattgga	gagttctaaa	ggaaaggatg	actatggctt	ttcaggttct	3660
cagaaattgg	aaggagagtt	caaacaacca	attcttgctg	cttccatgcc	acagcaaata	3720
ggcatttcta	ccagttcttt	aactcaagtt	gttcattctg	cggaaggcg	gtttatagtg	3780
agtctgtgtc	cagaaaagcg	attacagaaa	tcaaaagttt	tcccagtgta	aataacagat	3840
acagttgtgt	cctctacagc	tcagagccct	ggaatgaact	tgtctcactc	tgcatcatcc	3900
cttagtctac	caacaggcctt	ttctgaacct	agacgtgcc	aaatgacaga	aggacccaay	3960
acagcacctc	caaacttttag	tcatacagga	ccaacatttc	cagtagtacc	tcctttctta	4020
agtagcattg	ctggagtcct	aaccacagca	gcagccacag	caccagtccc	tgcaacaagc	4080
agcccttcta	atgacatttc	cacatcagta	attcagttct	aggttacagt	gccactgaa	4140
gaggggattg	ctggagttgc	caccagcaca	ggtgtggtta	cttcaggttg	tctcccata	4200
ccactgtgtg	ctgaattcac	agttacttcc	agcgtagttt	acaagtatcc	aatactgca	4260
gttgtctcaa	tatctactac	atccocgtca	cttcaagttc	ccacatccac	atctgagatc	4320
gttgtttcta	gtacagcact	gtatccttca	gtaacagttt	cagcaacttc	agcctctgca	4380
gggggcagta	ctgtaccctc	aggtcctaag	cctccagctg	tagtatctca	gcaggcagca	4440
ggcagcacta	ctgtgggagc	cacatthaaca	tcagtttcta	ccaccacttc	attcccaagc	4500
acagcttcac	agctgtccat	tcagcttagc	agcagttact	ctactctctc	tttagtgtaa	4560
accgtggtag	ttagtcgaca	ctcactagat	aagacatctc	atagcagtac	aactggattg	4620
gctttctccc	tctctgcacc	atcttctctt	tcctctcctg	gagcaggagt	gtctagtatt	4680
atttctcagc	ctgggtgggt	gcattccttg	gtcattccat	cagtgatagc	ttctactcct	4740
attcttcccc	aagcagcagg	acctacttct	acacctttat	taccccaagt	acctagtatc	4800
ccaccttggt	tacagctctg	tgccaatgtg	cctgtctgtac	agcagacact	aattcatagt	4860
cagcctcaac	cagctttgtc	tcccaaccag	ccccatactc	attgtcctga	agtagattct	4920
gatacacaac	ccaagcttgc	tggaattgat	gacataaaga	ctctagaaga	aaagctcggy	4980
tctctgttca	gtgaacacag	ctcatctgga	gctcagcatg	cctctgtctc	actggagacc	5040
tcactagtca	tagagagcac	tgtcacacca	ggcatcccaa	ctactgtctg	tgcaccaagc	5100
aaactcctga	cttctaccac	aagtactttg	ttaccaccaa	ccaatttacc	actaggaaca	5160
gttgcttttg	cagttacacc	agtggtcaca	cctgggcaag	tttctaccct	agtcagcact	5220
actacatcag	gagtgaaacc	tggaaactgt	ccctccaaag	cacctctaac	taaggctccg	5280
gtgctgccag	ttgggtactga	acttccagca	ggtactctac	ccagcgagca	gctgcc	

```

aagtctgttc attttgaatc cagcacctca gagtcctcag tgctatcaag tagtagtcca 5700
gagagtacct tgggtgaaacc agagccgaat ggcataacca tccttggtat ctcttcagat 5760
gtgccagaga gtgcccacaa aactactgcc tcagaggcaa agtcagacac tgggcagcct 5820
accaaggttg gacgttttca ggtgacaact acagcaaaca aagtgggtcg tttctctgta 5880
tcaaaaactg aggacaagat cactgacaca aagaaagaag gaccagtggc atctctctct 5940
tttatggatt tgggaacaagc tgttcttctt gctgtgatac caaagaaaga gaagcctgaa 6000
ctgtcagagc cttcacatct aaatgggccc tcttctgacc cggaggccgc ttttttaagt 6060
agggatgtgg atgatggttc cggtagtcca cactcgcccc atcagctgag ctcaaagagc 6120
cttcctagcc agaattctaag tcaaagcctt agtaattcat ttaactctc ttacatgagt 6180
agcgacaatg agtcagatat cgaagatgaa gacttaaagt tagagctgag acgactacga 6240
gataaacatc tcaaagagat tcaggacctg cagagtcgcc agaagcatga aattgaatct 6300
ttgtatacca aactgggcaa ggtgccccct gctgttatta ttccccagc tgcctccctt 6360
tcaggagaaa gacgacgacc cactaaaagc aaaggcagca aatctagtcg aagcagttcc 6420
ttggggaata aaagcccccga gctttcaggt aacctgtctg gtcagagtgc agcttcagtc 6480
ttgcaccccc agcagaccct ccaccctcct ggcaacatcc cagagtccgc gcagaatcag 6540
ctgttacagc cccttaagcc atctccctcc agtgacaacc tctattcagc cttcaccagt 6600
gatggtgcca tttcagtacc aagcctttct gctccaggtc aaggaaccag cagcacaac 6660
actgttgggg caacagtga cagccaagcc gcccaagctc agcctcctgc catgacgtcc 6720
agcaggaagg gcacattcac agatgacttg cacaagttgg tagacaattg ggcccagat 6780
gccatgaatc tctcaggcag gagaggaagc aaagggcaca tgaattatga gggccctgga 6840
atggcaagga agttctctgc acctgggcaa ctgtgcatct ccatgacctc gaacctgggt 6900
ggctctgccc ccatctctgc agcatcagct acctctctag gtcacttcac caagtctatg 6960
tgccccccac agcagtatgg ctttccagct accccatttg gcgctcaatg gagtgggacg 7020
ggtggcccag caccacagcc acttggccag ttccaacctg tgggaactgc ctcttgcag 7080
aatttcaaca tcagcaattt gcagaaatcc atcagcaacc cccaggtc caacctgagg 7140
accacttag

```

```

<210> 2
<211> 2382
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(2382)
<223> Xaa = Any Amino Acid

```

```

<400> 2
Met Ser Gly Gly Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
1      5      10      15
Phe Leu Ser Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Asp
20      25      30
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Asp Ala Val Thr
35      40      45
Gly Arg Thr Glu Glu Tyr Arg Arg Arg His Thr Met Asp Lys Asp
50      55      60
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Glu His Arg Phe Phe
65      70      75      80
Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
85      90      95
Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
100     105     110
Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
115     120     125
Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
130     135     140
Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
145     150     155     160
Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
165     170     175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu

```

			180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
		195					200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210					215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265				270			
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275					280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
		290				295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330						335
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355					360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
		370				375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405					410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440				445				
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
		450				455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485					490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
			500					505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
		515				520					525				
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met</				

1185		1190		1195		1200
Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp Tyr Gly						
	1205			1210		1215
Phe Ser Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro						
	1220			1225		1230
Ala Ser Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr						
	1235			1240		1245
Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro						
	1250			1255		1260
Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp						
1265		1270		1275		1280
Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His						
	1285			1290		1295
Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg						
	1300			1305		1310
Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His						
	1315			1320		1325
Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala						
	1330			1335		1340
Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser						
1345		1350		1355		1360
Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr						
	1365			1370		1375
Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val						
	1380			1385		1390
Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val						
	1395			1400		1405
Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile						
	1410			1415		1420
Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile						
1425		1430		1435		1440
Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr						
	1445			1450		1455
Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro						
	1460			1465		1470
Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr						
	1475			1480		1485
Leu Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln						
	1490			1495		1500
Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu						
1505		1510		1515		1520
Thr Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser						
	1525			1530		1535
Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser						
	1540			1545		1550
Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His						
	1555			1560		1565
Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln						
	1570			1575		1580
Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile						
1585		1590		1595		1600
Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr						
	1605			1610		1615
Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His						
	1620			1625		1630
Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly						
	1635			1640		1645
Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser						
	1650			1655		1660
Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr						
1665		1670		1675		1680
Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala						
	1685			1690		1695

Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	1700	1705	1710
Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	1715	1720	1725
Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	1730	1735	1740
Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	1745	1750	1755
Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	1765	1770	1775
Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro	1780	1785	1790
Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	1795	1800	1805
Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	1810	1815	1820
Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	1825	1830	1835
Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	1845	1850	1855
Met	Gly	Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	1860	1865	1870
Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser	1875	1880	1885
Thr	Ser	Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu	1890	1895	1900
Val	Lys	Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	1905	1910	1915
Val	Pro	Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	1925	1930	1935
Thr	Gly	Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Thr	Ala	1940	1945	1950
Asn	Lys	Val	Gly	Arg	Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr	1955	1960	1965
Asp	Thr	Lys	Lys	Glu	Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu	1970	1975	1980
Glu	Gln	Ala	Val	Leu	Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu	1985	1990	1995
Leu	Ser	Glu	Pro	Ser	His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala	2005	2010	2015
Ala	Phe	Leu	Ser	Arg	Asp	Val	Asp	Asp	Gly	Ser	Gly	Ser	Pro	His	Ser	2020	2025	2030
Pro	His	Gln	Leu	Ser	Ser	Lys	Ser	Leu	Pro	Ser	Gln	Asn	Leu	Ser	Gln	2035	2040	2045
Ser	Leu	Ser	Asn	Ser	Phe	Asn	Ser	Ser	Tyr	Met	Ser	Ser	Asp	Asn	Glu	2050	2055	2060
Ser	Asp	Ile	Glu	Asp	Glu	Asp	Leu	Lys	Leu	Glu	Leu	Arg	Arg	Leu	Arg	2065	2070	2075
Asp	Lys	His	Leu	Lys	Glu	Ile	Gln	Asp	Leu	Gln	Ser	Arg	Gln	Lys	His	2085	2090	2095
Glu	Ile	Glu	Ser	Leu	Tyr	Thr	Lys	Leu	Gly	Lys	Val	Pro	Pro	Ala	Val	2100	2105	2110
Ile	Ile	Pro	Pro	Ala	Ala	Pro	Leu	Ser	Gly	Arg	Arg	Arg	Arg	Pro	Thr	2115	2120	2125
Lys	Ser	Lys	Gly	Ser	Lys	Ser	Ser	Arg	Ser	Ser	Ser	Leu	Gly	Asn	Lys	2130	2135	2140
Ser	Pro	Gln	Leu	Ser	Gly	Asn	Leu	Ser	Gly	Gln	Ser	Ala	Ala	Ser	Val	2145	2150	2155
Leu	His	Pro	Gln	Gln	Thr	Leu	His	Pro	Pro	Gly	Asn	Ile	Pro	Glu	Ser	2165	2170	2175
Gly	Gln	Asn	Gln	Leu	Leu	Gln	Pro	Leu	Lys	Pro	Ser	Pro	Ser	Ser	Asp	2180	2185	2190
Asn	Leu	Tyr	Ser	Ala	Phe	Thr	Ser	Asp	Gly	Ala	Ile	Ser	Val	Pro	Ser			

2195	2200	2205
Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr	Asn Thr Val Gly Ala	
2210	2215	2220
Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro	Pro Ala Met Thr Ser	
2225	2230	2235
Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His	Lys Leu Val Asp Asn	
2245	2250	2255
Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg	Arg Gly Ser Lys Gly	
2260	2265	2270
His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg	Lys Phe Ser Ala Pro	
2275	2280	2285
Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu	Gly Gly Ser Ala Pro	
2290	2295	2300
Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His	Phe Thr Lys Ser Met	
2305	2310	2315
Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr	Pro Phe Gly Ala Gln	
2325	2330	2335
Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro	Leu Gly Gln Phe Gln	
2340	2345	2350
Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn	Ile Ser Asn Leu Gln	
2355	2360	2365
Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu	Arg Thr Thr	
2370	2375	2380

<210> 3
 <211> 6738
 <212> DNA
 <213> Homo sapiens

<400> 3

atgtctggcg	gcgcccgcaga	gaagcagagc	agcactcccc	gttccctggt	cctctcgccg	60
cgggtcctcg	cccccaagaa	tggtctccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcgggccgcg	accactacca	ccactgagca	ccgcttcttc	240
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccgg	ccttctcttt	300
tccttgcccc	agcccagcat	ccccgcgggt	gtcccgcaga	gtgctccacc	ggagccccac	360
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
ccgcccctg	gggaacaggc	cgctgcgggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaagacc	gcccagtgtc	ccagcctagc	cttggtggga	gcaaagagga	gccgcgccc	540
gcgagaagt	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggctctggac	720
actgaaacca	ccgtggaagt	cgcttgggtg	gaactgcagg	atcgaaaatt	aacaaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagatttt	atgattctg	ggaattccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	960
atcaaagtgc	taagaagctg	gtgccgctag	atccttaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaacct	tgaagcgggc	ttctttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gccccctgag	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcatgcttg	agatggctac	atctgaatat	1260
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaaacag	gagtagcggg	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctatttgagt	tttcttttga	tttagagaga	gattgtcccg	aagatgttgc	acaagaaaatg	1620
gtagagtctg	ggtatgtctg	tgaaggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacagat	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccagtagt	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1980

tcctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagttttcata	tggtttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	tacctttctac	tgtccaagca	2100
cagtctcagc	cccatggggt	atatccaccc	tcaagtggtg	cacaggggca	gagccagggt	2160
cagccatcct	caagtagctt	aacagggggt	tcattcttccc	aaccataca	acatcctcag	2220
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2280
cagacatcaa	cctccagtg	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagctttccag	tttcccagcc	agtaccaact	2400
atccaaggcg	aacctcagat	cccagttgcg	acacaaccct	cggttgttcc	agtcactct	2460
ggtgctcatt	tccttccagt	gggacagccg	ctccctactc	ccttgctccc	tcagtaccct	2520
gtctctcaga	ttcccatatc	aactcctcat	gtgtctacgg	ctcagacagg	tttctcatcc	2580
cttcccatca	caatggcagc	tggcattact	cagcctctgc	tcacgttggc	ttcatctgct	2640
acaacagctg	cgatcccggg	ggtatcaact	gtggttccta	gtcagcttcc	aacctttctg	2700
cagcctgtga	ctcagctgcc	aagtcagggt	caccacagc	tcctacaacc	agcagttcag	2760
tcctatgggaa	taccagctaa	ccttggacaa	gctgtgagg	ttccactttc	ctctggagat	2820
gttctgtacc	agggcttccc	acctcgactg	ccaccacagt	accaggaga	ttcaaataatt	2880
gctccctctt	ccaacgtggc	ttctgtttgc	atccattcta	cagtcctawc	ccctcccatg	2940
ccgacagaag	tactggctac	acctgggtac	tttcccacag	tggtgcagcc	ttatgtggaa	3000
tcaaatcttt	tagttcctat	gggtgggtga	ggaggacagg	ttcaagtgtc	ccagccaggga	3060
gggagtttag	cacaagcccc	cactacatcc	tcccagcaag	cagttttgga	gagtactcag	3120
ggagtctctc	aggttgtctc	tgcagagcca	gttgcagtag	cacagcccca	agctaccag	3180
ccgaccactt	tgggttctctc	tgtagacagt	gtcacattag	atgttgcttc	aggtatgagt	3240
gatggcaatg	agaacgtccc	atcttccagt	ggaaggcatg	aaggaagaac	tacaaaaacgg	3300
cattaccgaa	aatctgtaag	gagtcgctct	cgacatgaaa	aaacttcacg	cccaaaatta	3360
agaattttga	atgtttcaaa	taaaggagac	cgagtagtag	aatgtcaatt	agagactcat	3420
aataggaaaa	tggttacatt	caaatttgac	ctagatgggtg	acaacccccg	ggagatagca	3480
acaatttatgg	tgaacaatga	ctttattcta	gcaatataga	gagagtcgtt	tgtggatcaa	3540
gtgcgagaaa	ttattgaaaa	agctgatgaa	atgctcagtg	aggatgtcag	tgtggaacca	3600
gagggtgatc	agggattgga	gagtcataca	ggaaaggatg	actatggctt	ttcaggttct	3660
cagaaattgg	aaggagagtt	caaacaacca	attcctgcgt	cttccatgcc	acagcaaata	3720
ggcatttcta	ccagttcttt	aactcaagtt	gttcattctg	cggaaggcg	gtttatagtg	3780
agtcctgtgc	cagaaagccg	attacgagaa	tcaaaagttt	tccccagtg	aataacagat	3840
acagttgtctg	ctctctacgc	tcagagccct	ggaatgaact	tgtctcactc	tgcactatcc	3900
cttagtctac	aacaggcctt	ttctgaactt	agacgtgccc	aaatgacaga	aggacccaay	3960
acagcacctc	caaactttag	tcatacagga	ccaacatttc	cagtagtacc	tcctttctta	4020
agtagcattg	ctggagttccc	aaccacagca	gcagccacag	caccagtccc	tgcaacaagc	4080
agccctccta	atgacatttc	cacatcagta	attcagtcctg	aggttacagt	gccactgaa	4140
gaggggattg	ctggagttgc	caccagcaca	ggtgtggtaa	cttcaggtgg	tctccccata	4200
ccactgtgtg	ctgaactccc	agtaatttcc	agcgtagttt	caagtatcac	aatacctgca	4260
gttgtctcaa	tatctactac	atccccgtca	cttcaagtcc	ccacatccac	atctgagatc	4320
gttgtttcta	gtacagcact	gtatccttca	gtaacagttt	cagcaacttc	agcctctgca	4380
gggggcagta	ctgctacccc	aggtectaag	cctccagctg	tagtatctca	gcaggcagca	4440
ggcagcacta	ctgtggggagc	cacattaaca	tcagtttcta	ccaccacttc	attcccaagc	4500
acagcttcac	agctgtccat	tcagcttagc	agcagtaact	ctactcctac	tttagctgaa	4560
accgtggtag	ttagcgcaca	ctcactagat	aagacatctc	atagcagtag	aactggattg	4620
gctttctccc	tctctgaacc	atcttctctt	tcctctcctg	gagcaggagt	gtctagttat	4680
atttctcagc	ctggtgggct	gcatectttg	gtcattccat	cagtgatagc	ttctactcct	4740
attcttcccc	aagcagcagg	acctacttct	acacctttat	taccccaagt	acctagtatc	4800
ccacccttgg	tacagcctgt	tgccaatgtg	cctgctgtac	agcagacact	aattcatagt	4860
cagcctcaac	cagcttttgt	tcccaaccag	ccccatactc	attgtcctga	agtagattct	4920
gatacacaac	ccaaagctcc	tgggaattgat	gacataaaga	ctctagaaga	aaagctgcgg	4980
tctctgttca	gtgaacacag	ctcatctgga	gctcagcatg	cctctgtctc	actggagacc	5040
tcactagtca	tagagagcac	tgtcacacca	ggcatcccaa	ctactgctgt	tgcaccaagc	5100
aaactcctga	cttctaccac	aagtacttgc	ttaccaccaa	ccaatttacc	actaggaaca	5160
gttgcctttg	cagttacacc	agtggtcaca	cctgggcaag	tttctacccc	agtcagcact	5220
actacatcag	gagtgaaacc	tggaaactgct	ccctccaagc	cacctctaac	taaggctccg	5280
gtgctgccag	tgggtactga	acttccagca	ggtactctac	ccagcgagca	gctgccacct	5340
tttccaggac	cttctctaac	ccagctccag	caacctctag	aggatcttga	tgtctcaattg	5400
agaagaacac	ttagtccaga	gatkatcaca	gtgacttctg	cggttgggtcc	tgtgtccatg	5460
gcggctccaa	cagcaatcac	agaagcagga	acacagcctc	agaagggtgt	ttctcaagtc	5520
aaagaaggcc	ctgtcctagc	aactagttca	ggagctgggtg	tttttaagat	gggacgattt	5580
caggtttctg	ttgcagcaga	cgggtgccag	aaagagggtg	aaaataagtc	agaagatgca	5640
aagtctgttc	attttgaate	cagcacctca	gagtcctcag	tgctatcaag	tagtagtcca	5700
gagagtaacct	tgggtgaacc	agagccgaat	ggcataacca	tccttggtat	ctcttcagat	5760

gtgccagaga	gtgcccacaa	aactactgcc	tcagaggcaa	agtcagacac	tgggcagcct	5820
accaaggttg	gacgttttca	ggtgacaact	acagcaaaca	aagtgggtcg	tttctctgta	5880
tcaaaaactg	aggacaagat	cactgacaca	aagaaagaag	gaccagtggc	atctctctct	5940
tttatggatt	tggacaacagc	tggttcttct	gctgtgatac	caaagaaaga	gaagcctgaa	6000
ctgtcagagc	cttcacatct	aaatggggccg	tcttctgacc	cggaggccgc	ttttttaagt	6060
agggatgtgg	atgatggttc	cggtagtcca	cactcgcccc	atcagctgag	ctcaaagagc	6120
cttcctagcc	agaatctaag	tcaaagcctt	agtaattcat	ttaactcttc	ttacatgagt	6180
agcgacaatg	agtcagatat	cgaagatgaa	gacttaaagt	tagagctgcg	acgactacga	6240
gataaacatc	tcaaagagat	tcaggacctg	cagagtcgcc	agaagcatga	aattgaatct	6300
ttgtatacca	aactgggcaa	ggtgccccct	gctgttatta	ttcccccagc	tgctcccctt	6360
tcagggagaa	gacgacgacc	cactaaaagc	aaaggcagca	aatctagtcg	aagcagttcc	6420
ttgggggaata	aaagccccca	gctttcaggt	aacctgtctg	gtcagagtgc	agcttcagtc	6480
ttgcaccccc	agcagaccct	ccaccctcct	ggcaacatcc	cagagtcccg	gcagaatcag	6540
ctgtttacagc	cccttaagcc	atctccctcc	agtgacaacc	tctattcagc	cttcaccagt	6600
gatggtgcca	tttcagtacc	aagcctttct	gctccaggtc	aaggaataaa	gcaaccatca	6660
tcgtccaaaa	acaataaaat	ggagatgttg	ccatacctgg	gacaaaagcc	tgттаaggcg	6720
ggttggggaga	ctagctga					6738

<210> 4
 <211> 2245
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2245)
 <223> Xaa = Any Amino Acid

<400> 4

Met	Ser	Gly	Gly	Ala	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1				5				10					15		
Phe	Leu	Ser	Pro	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20					25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val	Thr
		35					40					45			
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
	50					55					60				
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe	Phe
	65				70					75					80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro
			85					90					95		
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro
		100						105					110		
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr
		115					120					125			
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
	130					135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
	145				150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
			165					170					175		
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
		180					185					190			
Pro	Gln	Glu	Arg	Ser	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu		
		195				200					205				
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210				215						220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
	225				230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
			245					250					255		

	755		760		765										
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro
	770					775					780				
Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln	Pro	Val	Pro	Thr
785					790					795					800
Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln	Pro	Ser	Val	Val
				805					810						815
Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly	Gln	Pro	Leu	Pro
			820					825						830	
Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile	Pro	Ile	Ser	Thr
			835					840						845	
Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser	Leu	Pro	Ile	Thr
	850					855					860				
Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala
865					870					875					880
Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val	Pro	Ser	Gln	Leu
				885					890						895
Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser	Gln	Val	His	Pro
			900					905						910	
Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile	Pro	Ala	Asn	Leu
			915				920							925	
Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp	Val	Leu	Tyr	Gln
			930			935					940				
Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile
945					950					955					960
Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu
				965					970						975
Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro
			980					985							990
Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly
			995				1000							1005	
Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala
	1010					1015					1020				
Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln
1025					1030					1035					1040
Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro
				1045					1050						1055
Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His
			1060					1065						1070	
Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser
			1075				1080							1085	
Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys
	1090					1095					1100				
Ser	Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu
1105					1110					1115					1120
Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln
			1125						1130						1135
Leu	Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp
			1140				1145							1150	
Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe
			1155				1160							1165	
Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile
	1170					1175				1180					
Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro
1185					1190					1195					1200
Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly
			1205						1210						1215
Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro
			1220					1225						1230	
Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr
			1235				1240							1245	
Gln	Val	Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro
	1250					1255					1260				

Glu	Ser	Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	
1265					1270					1275						1280
Thr	Val	Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	
				1285					1290							1295
Ser	Ala	Ser	Ser	Leu	Ser	Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	
			1300					1305						1310		
Ala	Gln	Met	Thr	Glu	Gly	Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	
		1315					1320						1325			
Thr	Gly	Pro	Thr	Phe	Pro	Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	
	1330					1335					1340					
Gly	Val	Pro	Thr	Thr	Ala	Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	
1345					1350					1355						1360
Ser	Pro	Pro	Asn	Asp	Ile	Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	
			1365						1370							1375
Val	Pro	Thr	Glu	Glu	Gly	Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	
		1380						1385						1390		
Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	
	1395						1400							1405		
Leu	Ser	Ser	Val	Val	Ser	Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	
	1410						1415						1420			
Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	
1425					1430					1435						1440
Val	Val	Ser	Ser	Thr	Ala	Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	
				1445					1450							1455
Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	
			1460					1465						1470		
Ala	Val	Val	Ser	Gln	Gln	Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	
	1475						1480						1485			
Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	
	1490					1495					1500					
Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	
1505					1510					1515						1520
Thr	Val	Val	Val	Ser	Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	
			1525						1530							1535
Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	
		1540						1545						1550		
Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	
	1555						1560						1565			
Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	
	1570					1575						1580				
Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	Leu	Leu	Pro	Gln	Val	Pro	Ser	Ile	
1585					1590					1595						1600
Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	Asn	Val	Pro	Ala	Val	Gln	Gln	Thr	
			1605					1610						1615		
Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	Ala	Leu	Leu	Pro	Asn	Gln	Pro	His	
		1620					1625						1630			
Thr	His	Cys	Pro	Glu	Val	Asp	Ser	Asp	Thr	Gln	Pro	Lys	Ala	Pro	Gly	
	1635					1640						1645				
Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	Glu	Lys	Leu	Arg	Ser	Leu	Phe	Ser	
	1650				1655					1660						
Glu	His	Ser	Ser	Ser	Gly	Ala	Gln	His	Ala	Ser	Val	Ser	Leu	Glu	Thr	
1665					1670					1675						1680
Ser	Leu	Val	Ile	Glu	Ser	Thr	Val	Thr	Pro	Gly	Ile	Pro	Thr	Thr	Ala	
			1685						1690					1695		
Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	
		1700						1705						1710		
Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	
	1715					1720							1725			
Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	
	1730					1735						1740				
Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	
1745					1750					1755						1760
Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	

				1765					1770					1775	
Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro
			1780					1785					1790		
Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa
		1795					1800					1805			
Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr
	1810					1815					1820				
Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val
1825					1830					1835					1840
Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys
			1845					1850						1855	
Met	Gly	Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu
			1860					1865					1870		
Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser
		1875				1880						1885			
Thr	Ser	Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu
	1890					1895					1900				
Val	Lys	Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp
1905					1910					1915					1920
Val	Pro	Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp
			1925						1930						1935
Thr	Gly	Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Thr	Ala
			1940					1945						1950	
Asn	Lys	Val	Gly	Arg	Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr
	1955					1960						1965			
Asp	Thr	Lys	Lys	Glu	Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu
	1970				1975					1980					
Glu	Gln	Ala	Val	Leu	Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu
1985				1990					1995						2000
Leu	Ser	Glu	Pro	Ser	His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala
			2005					2010						2015	
Ala	Phe	Leu	Ser	Arg	Asp	Val	Asp	Asp	Gly	Ser	Gly	Ser	Pro	His	Ser
			2020				2025						2030		
Pro	His	Gln	Leu	Ser	Ser	Lys	Ser	Leu	Pro	Ser	Gln	Asn	Leu	Ser	Gln
		2035				2040					2045				
Ser	Leu	Ser	Asn	Ser	Phe	Asn	Ser	Ser	Tyr	Met	Ser	Ser	Asp	Asn	Glu
	2050			2055						2060					
Ser	Asp	Ile	Glu	Asp	Glu	Asp	Leu	Lys	Leu	Glu	Leu	Arg	Arg	Leu	Arg
2065				2070					2075						2080
Asp	Lys	His	Leu	Lys	Glu	Ile	Gln	Asp	Leu	Gln	Ser	Arg	Gln	Lys	His
			2085				2090							2095	
Glu	Ile	Glu	Ser	Leu	Tyr	Thr	Lys	Leu	Gly	Lys	Val	Pro	Pro	Ala	Val
	2100					2105						2110			
Ile	Ile	Pro	Pro	Ala	Ala	Pro	Leu	Ser	Gly	Arg	Arg	Arg	Arg	Pro	Thr
	2115					2120						2125			
Lys	Ser	Lys	Gly	Ser	Lys	Ser	Ser	Arg	Ser	Ser	Ser	Leu	Gly	Asn	Lys
	2130				2135						2140				
Ser	Pro	Gln	Leu	Ser	Gly	Asn	Leu	Ser	Gly	Gln	Ser	Ala	Ala	Ser	Val
2145				2150				2155						2160	
Leu	His	Pro	Gln	Gln	Thr	Leu	His	Pro	Pro	Gly	Asn	Ile	Pro	Glu	Ser
			2165				2170						2175		
Gly	Gln	Asn	Gln	Leu	Leu	Gln	Pro	Leu	Lys	Pro	Ser	Pro	Ser	Ser	Asp
	2180					2185						2190			
Asn	Leu	Tyr	Ser	Ala	Phe	Thr	Ser	Asp	Gly	Ala	Ile	Ser	Val	Pro	Ser
	2195					2200						2205			
Leu	Ser	Ala	Pro	Gly	Gln	Gly	Ile	Lys	Gln	Pro	Ser	Ser	Ser	Lys	Asn
	2210				2215					2220					
Asn	Lys	Met	Glu	Met	Leu	Pro	Tyr	Leu	Gly	Gln	Lys	Pro	Val	Lys	Ala
2225				2230					2235					2240	
Gly	Trp	Glu	Thr	Ser											
				2245											

<210> 5

<211> 2949
 <212> DNA
 <213> Homo sapiens

<400> 5
 atgtctggcg ggcgcgcaga gaagcagagc agcactcccc gtccctctgtt cctctcgcgc 60
 ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga 120
 gcgcggcccg ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgccacact 180
 atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc 240
 cgccggagcg tcactctgca ctccaatgcc actgcactgg agcttcccgg ccttccctctt 300
 tccctgcccc agcccagcat ccccgcggt gtcccgcaga gtgctccacc ggagccccac 360
 cgggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct 420
 gccgccccct ggggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 480
 agcaaagacc gccagtgctc ccagcctagc cttgtgggga gcaaagagga gccgcccgcg 540
 gcgagaagtg gcagcggcg cggcagcgcc aaggagccac aggaggaacg gagccagcag 600
 caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 660
 ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggctctacaa aggtctggac 720
 actgaaacca ccgtggaagt cgctggtgt gaactgcagg atcgaaaatt aacaaagtct 780
 gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 840
 gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 900
 actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 960
 atcaaagttc taagaagctg gtgcccgcag atccttaaag gtcttcagtt tcttcatact 1020
 cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 1080
 actggctcag tcaagattgg agacctcggt ctggcaacct tgaagcgggc ttcttttgcc 1140
 aagagtgtga taggtacccc agagttcatg gccctgaga tgtatgagga gaaatatgat 1200
 gaatccgttg acgtttatgc ttttgggatg tgcagtcttg agatggctac atctgaatat 1260
 ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1320
 ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1380
 cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1440
 gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1500
 aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1560
 gctattgagt tttcttttga ttttagagaga gatgtcccag aagatgttgc acaagaaatg 1620
 gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1680
 agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1740
 aaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttccag 1800
 acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccacttca 1860
 gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1920
 cagtaccagc aacctcagat atctgtgtta tctgatggga cggttgacag tggtcaggga 1980
 tctctgtctc tcacagaatc tcgagtgagc agccaacaga cagtttcata tggttcccaa 2040
 catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 2100
 cagtctcagc cccatggggt atatccacc tcaagtgtgg cacaggggca gagccagggt 2160
 cagccatcct caagtagctt aacaggggtt tcactctccc aacctataca acatcctcag 2220
 cagcagcagg gaatacagca gacagcccc cctcaacaga cagtgcagta ttcactttca 2280
 cagacatcaa cctccagtga ggccactact gcacagccag tgagttagcc tcaagctcca 2340
 caagtcttgc ctcaagtatc agctggaaaa cagcttccag tttccagcc agtaccact 2400
 atccaaggcg aacctcagat ccagtttgcg acacaaccct cggttgttcc agtccactct 2460
 ggtgctcatt tcttccagtt gggacagccg ctccctactc cettgctccc tcagtaccct 2520
 gtctctcaga ttcccatatc aactcctcat gtgtctacgg ctacagacagg tttctcatcc 2580
 ctcccatca caatggcagc tggcattact cagcctctgc tcacgttggc ttcactgtct 2640
 acaacagctg cgatccccgg ggtatcaact gtggttccca gtcagcttcc aacccttctg 2700
 cagcctgtga ctcagctgcc aagtcagggt caccacagc tcctacaacc agcagttcag 2760
 tccatgggaa taccagctaa ccttggacaa gctgctgagg ttccactttc ctctggagat 2820
 gttctgtacc agggcttccc acctcgactg ccaccacagt acccaggaga ttcaaattatt 2880
 gctccctctt ccaacgtggc ttctgtttgc atccattcta cagtcctawc ccctatacct 2940
 tctgcataa 2949

<210> 6
 <211> 982
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT

<222> (1)...(982)

<223> Xaa = Any Amino Acid

<400> 6

Met	Ser	Gly	Gly	Ala	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1				5					10					15	
Phe	Leu	Ser	Pro	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20					25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val	Thr
		35					40					45			
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
	50					55					60				
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe	Phe
65					70					75					80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro
				85					90					95	
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro
		100						105					110		
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr
		115					120						125		
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
	130					135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
				165					170					175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180				185						190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
		195					200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210					215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275					280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
	290					295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355					360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370					375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405					410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
		420						425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln

10010720-11304

465	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
					485					490					495	
	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
				500					505					510		
	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
				515				520					525			
	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
				530			535					540				
	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
	545					550					555					560
	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
				565						570						575
	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Ser	Ser	Ser	Leu	Lys	Gln	Gln
				580					585					590		
	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
				595				600					605			
	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
				610			615						620			
	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
	625					630					635					640
	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645						650						655
	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
				660					665							670
	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
				675				680					685			
	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
				690			695						700			
	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly
	705					710					715					720
	Gln	Pro	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Ser	Gln	Pro	Ile
				725						730						735
	Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln
				740				745						750		
	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala
				755				760					765			
	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro
				770			775						780			
	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln	Pro	Val	Pro	Thr
	785					790				795						800
	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln	Pro	Ser	Val	Val
				805						810						815
	Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly	Gln	Pro	Leu	Pro
				820				825						830		
	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile	Pro	Ile	Ser	Thr
				835				840					845			
	Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser	Ser	Leu	Pro	Ile
				850			855						860			
	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala
	865					870					875					880
	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val	Pro	Ser	Gln	Leu
				885						890						895
	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser	Gln	Val	His	Pro
				900					905					910		
	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile	Pro	Ala	Asn	Leu
				915				920						925		
	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp	Val	Leu	Tyr	Gln
				930			935					940				
	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile
	945					950					955					960
	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu
				965						970						975

Xaa Pro Ile Pro Ser Ala
980

<210> 7
<211> 6690
<212> DNA
<213> Homo sapiens

<400> 7
atgtctggcg ggcgcgcaga gaagcagagc agcactcccc gttccctgtt cctctcgccg 60
ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga 120
gccgcggccg ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgccacact 180
atggacaagg acagccgtgg ggcggccgcg accactacca cactgagca ccgcttcttc 240
cgccggagcg tcactctgca ctccaatgcc actgcactgg agcttcccgg ccttctcttt 300
tccctgcccc agcccagcat ccccgcggt gtccgcgaga gtgctccacc ggagccccac 360
cgggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct 420
gccgcccctg gggaaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtagc 480
agcaaagacc gccagtggtc ccagcctagc cttgtgggga gcaaagagga gccgcgcg 540
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 600
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 660
ctcaagtgtt acatcgaaat ccgcagagcg tcccttaaga cggctctaca aggtctggac 720
actgaaacca ccgtggaagt cgctgggtgt gaactgcagg atcgaaaatt aacaaagtct 780
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 840
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 900
actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 960
atcaaagttc taagaagctg gtgcccgcag atccttaaaag gtcttcagtt tcttcatact 1020
cgaaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 1080
actggctcag tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc 1140
aagagtgtga taggtacccc agagttcatg gcccttgaga tgtatgagga gaaatatgat 1200
gaatccgttg acgtttatgc ttttgggatg tgcagtcttg agatggctac atctgaatat 1260
ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1320
ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1380
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1440
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1500
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1560
gctattgagt tttcttttga tttagagaga gatgtcccag aagatggtgc acaagaaatg 1620
gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1680
agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1740
aaaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1800
acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccacttca 1860
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1920
cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1980
tctctgtct tccagaaatc tgcagtgage agccaacaga cagtttcata tggttcccaa 2040
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 2100
cagtctcag cccatgggtg ataccaccc tcaagtgtgg cacaggggca gagccagggt 2160
cagccatcct caagtagctt aacaggggtt tcatcttccc aaccataca acatcctcag 2220
cagcagcagg gaatacagca gacagccctt cctcaacaga cagtgcagta ttcactttca 2280
cagacatcaa cctccagtg ggcactact gcacagccag tgagtcagcc tcaagctcca 2340
caagtcttgc ctcaagtatc agctggaaaa cagggtcttc cacctcgact gccaccacag 2400
taccaggag attcaaatat tgctccctct tccaacgtgg cttctgtttg catccattct 2460
acagtcctaw cccctcccat gccgacagaa gtactggcta cacctgggta ctttccaca 2520
gtggtgcagc cttatgtgga atcaaatctt ttagttccta tgggtggtgt aggaggacag 2580
gttcaagtgt ccagccagg agggagttaa gcacaagccc ccactacatc ctcccagcaa 2640
gcagttttgg agagtactca gggagtctct caggttgctc ctgcagagcc agttgcagta 2700
gcacagcccc aagctaccca gccgaccact ttggcttctc ctgtagacag tgcacattca 2760
gatgttgctt caggtatgag tgatggcaat gagaacgtcc catcttccag tgggaaggcat 2820
gaaggaagaa ctacaaaacg gcaatacga aaatctgtaa ggagtcgctc tcgacatgaa 2880
aaaacttcac gccccaaatt aagaattttg aatgtttcaa ataaaggaga ccgagtagta 2940
gaatgtcaat tagagactca taataggaaa atggttacat tcaaatttga cctagatggg 3000
gacaaccccg aggagatagc aacaattatg gtgaacaatg actttattct agcaatagag 3060
agagagtctg ttgtggatca agtgcgagaa attattgaaa aagctgatga aatgctcagt 3120
gaggatgtca gtgtggaacc agaggggtgat cagggtattg agagtctaca aggaaaggat 3180
gactatggct tttcagggtc tcagaaattg gaaggagagt tcaaacaacc aattcctgcg 3240

tcttccatgc	cacagcaaat	aggcattcct	accagttcct	taactcaagt	tggttcattct	3300
gcgggaaggg	gggtttatagt	gagtcctgtg	ccagaaaagcc	gattacgaga	atcaaaaagtt	3360
ttccccagtg	aaataacaga	tacagttgct	gcctctacag	ctcagagccc	tggaatgaac	3420
ttgtctcact	ctgcatcatc	ccttagtcta	caacaggcct	tttctgaact	tagacgtgcc	3480
caaagtacag	aaggacccaa	yacagcacct	ccaaacttta	gtcatacagg	accaacattt	3540
ccagtagtac	ctccttttct	aagtagcatt	gctggagtc	caaccacagc	agcagccaca	3600
gcaccagtc	ctgcaacaag	cagccctcct	aatgacattt	ccacatcagt	aattcagttc	3660
gaggttacag	tgccactga	agaggggatt	gctggagttg	ccaccagcac	aggtgtggta	3720
acttcagggtg	gtctcccat	accacctgtg	tctgaatcac	cagtactttc	cagcgtagtt	3780
tcaagtatca	caatacctgc	agttgtctca	atatctacta	catccccgtc	acttcaagtc	3840
cccacatcca	catctgagat	cgttgtttct	agtacagcac	tgtatccttc	agtaacagtt	3900
tcagcaactt	cagcctctgc	agggggcagt	actgctaccc	caggtcctaa	gcctccagct	3960
gtagtatctc	agcaggcagc	aggcagcact	actgtgggag	ccacattaac	atcagtttct	4020
accaccactt	cattcccaag	cacagcttca	cagctgtcca	ttcagcttag	cagcagtagt	4080
tctactccta	ctttagctga	aaccgtggta	gttagcgcac	actcactaga	taagacatct	4140
catagcagta	caactggatt	ggcttttctc	ctctctgcac	catcttcttc	ttcctctcct	4200
ggagcaggag	tgtctagtta	tatttctcag	cctgggtggg	tgcacccctt	ggtcattcca	4260
tcagtgatag	cttctactcc	tatttctccc	caagcagcag	gacctacttc	tacaccttta	4320
ttaccccaag	tacctagtat	cccacccttg	gtacagcctg	ttgccaatgt	gcctgctgta	4380
cagcagacac	taattcatag	tcagcctcaa	ccagctttgc	ttcccaacca	gccccatact	4440
cattgtcctg	aagtagattc	tgatacacaa	cccaaagctc	ctggaattga	tgacataaag	4500
actctagaag	aaaagctgcg	gtctctgttc	agtgaacaca	gctcatctgg	agctcagcat	4560
gcctctgtct	cactggagac	ctcactagtc	atagagagca	ctgtcacacc	aggcatccca	4620
actactgctg	ttgcaccaag	caaactcctg	acttctacca	caagtacttg	cttaccacca	4680
accaatttac	cactaggaac	agttgctttg	ccagttacac	cagtggtcac	acctggggca	4740
gtttctaccc	cagtcagcac	tactacatca	ggagtgaac	ctggaactgc	tccctccaag	4800
ccacctctaa	ctaaggctcc	ggtgtgccca	gtgggtactg	aacttccagc	aggtactcta	4860
cccagcgagc	agctgccacc	ttttccagga	ccttctctaa	cccagtccca	gcaacctcta	4920
gaggatcttg	atgctcaatt	gagaagaaca	cttagtccag	agatkacac	agtgacttct	4980
gcggttggtc	ctgtgtccat	ggcggctcca	acagcaatca	cagaagcagg	aacacagcct	5040
cagaaggggtg	tttctcaagt	caaagaaggg	cctgtcctag	caactagttc	aggagctggt	5100
gtttttaaga	tgggacgatt	tcaggtttct	gttgccagcag	acggtgcccc	gaaagagggg	5160
aaaaataagt	cagaagatgc	aaagtctgtt	cattttgaat	ccagcacctc	agagtctcta	5220
gtgctatcaa	gtagtagtcc	agagagtacc	ttggtgaaac	cagagccgaa	tggcataacc	5280
atccctggta	tctcttcaga	tgtgccagag	agtgccacac	aaactactgc	ctcagaggca	5340
aagtacagaca	ctgggcagcc	taccaagggt	ggacgttttc	aggtgacaac	tacagcaaac	5400
aaagtgggtc	gtttctctgt	atcaaaaaact	gaggacaaga	tcactgacac	aaagaaagaa	5460
ggaccagtgg	catctcctcc	ttttatggat	cttgaacaag	ctgttcttcc	tgctgtgata	5520
ccaaagaaaag	agaagcctga	actgtcagag	ccttcacatc	taaaatgggc	gtcttctgac	5580
ccggaggccg	cttttttaag	tagggatgtg	gatgatgggt	ccggtagtcc	acactcgccc	5640
catcagctga	gctcaaagag	ccttctctagc	cagaatctaa	gtcaaagcct	tagtaattca	5700
tttaactcct	cttacatgag	tagcgacaat	gagtcagata	tcgaagatga	agacttaaaag	5760
ttagagctgc	gacgactacg	agataaaacat	ctcaaagaga	ttcaggacct	gcagagtcgc	5820
cagaagcatg	aaattgaatc	tttgtatacc	aaactgggca	aggtgcccc	tgctgttatt	5880
attccccag	ctgctccctc	ttcagggaga	agacgacgac	ccactaaaag	caaaggcagc	5940
aaatctagtc	gaagcagttc	cttgggggaat	aaaagccccc	agcttttcagg	taacctgtct	6000
ggtcagagtg	cagcttcagt	cttgcacccc	cagcagaccc	tccaccctcc	tggcaacatc	6060
ccagagtccg	ggcagaatca	gctgttacag	ccccttaagc	catctccctc	cagtgcacac	6120
ctctattcag	ccttcaccag	tgatgggtgcc	atttctagta	caagcctttc	tgctccaggt	6180
caaggaacca	gcagcacaaa	cactgttggg	gcaacagtga	acagccaagc	cgcccaagct	6240
cagcctcctg	ccatgacgtc	cagcaggaag	ggcacattca	cagatgactt	gcacaagtgt	6300
gtagacaatt	gggccccgaga	tgccatgaat	ctctcaggca	ggagaggaag	caaagggcac	6360
atgaattatg	agggccctgg	aatggcaagg	aagttctctg	cacctgggca	actgtgcac	6420
tccatgacct	cgaacctggg	tggctctgcc	cccatctctg	cagcatcagc	tacctctcta	6480
ggtcacttca	ccaagtctat	gtgcccccca	cagcagtatg	gctttccagc	taccccatct	6540
ggcgctcaat	ggagtgggac	gggtggccca	gcaccacagc	cacttggcca	gttccaacct	6600
gtgggaactg	cctcttgca	gaatttcaac	atcagcaatt	tgcaaaaatc	catcagcaac	6660
ccccaggct	ccaacctgcg	gaccacttag				6690

<210> 8

<211> 2229

<212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2229)
 <223> Xaa = Any Amino Acid

<400> 8
 Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1 5 10 15
 Phe Leu Ser Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30
 Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45
 Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60
 Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80
 Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95
 Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110
 Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125
 Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130 135 140
 Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160
 Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
 165 170 175
 Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
 180 185 190
 Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205
 Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210 215 220
 Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225 230 235 240
 Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245 250 255
 Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260 265 270
 Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275 280 285
 Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
 290 295 300
 Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
 305 310 315 320
 Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
 325 330 335
 Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
 340 345 350
 Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
 355 360 365
 Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
 370 375 380
 Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
 385 390 395 400
 Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
 405 410 415
 Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
 420 425 430

10010720.1130F

Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala		
		435					440					445					
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys		
		450				455					460						
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln		
465					470					475					480		
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu		
				485					490					495			
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu		
		500					505						510				
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu		
		515				520						525					
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly		
		530				535					540						
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp		
545					550					555					560		
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg		
				565					570						575		
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Ser	Ser	Leu	Lys	Gln	Gln	Gln		
			580				585						590				
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser		
		595				600						605					
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser		
		610				615					620						
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu		
625					630					635					640		
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp		
				645					650					655			
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln		
			660					665					670				
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly		
		675					680					685					
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro		
		690				695				700							
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly		
705					710					715					720		
Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Gln	Pro	Ile		
				725					730					735			
Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln		
			740				745						750				
Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala		
		755					760					765					
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro		
		770				775					780						
Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln		
785					790					795					800		
Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val		
				805					810					815			
Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu		
			820					825					830				
Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser		
		835					840					845					
Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser		
		850				855					860						
Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln		
865					870					875					880		
Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu		
				885					890					895			
Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala		
			900					905					910				
Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp		
		915					920					925					
Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr		

	1940		1945		1950
Gly Lys Val	Pro Pro Ala Val	Ile Ile Pro	Pro Pro Ala	Ala Pro Leu	Ser
1955		1960		1965	
Gly Arg Arg	Arg Arg Pro Thr	Lys Ser Lys	Gly Ser Lys	Ser Ser Arg	
1970		1975		1980	
Ser Ser Ser	Leu Gly Asn Lys	Ser Pro Gln	Leu Ser Gly	Asn Leu Ser	
1985		1990		1995	2000
Gly Gln Ser	Ala Ala Ser Val	Leu His Pro	Gln Gln Thr	Leu His Pro	
	2005		2010		2015
Pro Gly Asn	Ile Pro Glu Ser	Gly Gln Asn	Gln Leu Leu	Gln Pro Leu	
	2020		2025		2030
Lys Pro Ser	Pro Ser Ser Asp	Asn Leu Tyr	Ser Ala Phe	Thr Ser Asp	
	2035		2040		2045
Gly Ala Ile	Ser Val Pro Ser	Leu Ser Ala	Pro Gly Gln	Gly Thr Ser	
	2050		2055		2060
Ser Thr Asn	Thr Val Gly Ala	Thr Val Asn	Ser Gln Ala	Ala Gln Ala	
2065		2070		2075	2080
Gln Pro Pro	Ala Met Thr Ser	Ser Arg Lys	Gly Thr Phe	Thr Asp Asp	
	2085		2090		2095
Leu His Lys	Leu Val Asp Asn	Trp Ala Arg	Asp Ala Met	Asn Leu Ser	
	2100		2105		2110
Gly Arg Arg	Gly Ser Lys Gly	His Met Asn	Tyr Glu Gly	Pro Gly Met	
	2115		2120		2125
Ala Arg Lys	Phe Ser Ala Pro	Gly Gln Leu	Cys Ile Ser	Met Thr Ser	
	2130		2135		2140
Asn Leu Gly	Gly Ser Ala Pro	Ile Ser Ala	Ala Ser Ala	Thr Ser Leu	
2145		2150		2155	2160
Gly His Phe	Thr Lys Ser Met	Cys Pro Pro	Gln Gln Tyr	Gly Phe Pro	
	2165		2170		2175
Ala Thr Pro	Phe Gly Ala Gln	Trp Ser Gly	Thr Gly Gly	Pro Ala Pro	
	2180		2185		2190
Gln Pro Leu	Gly Gln Phe Gln	Pro Val Gly	Thr Ala Ser	Leu Gln Asn	
	2195		2200		2205
Phe Asn Ile	Ser Asn Leu Gln	Lys Ser Ile	Ser Asn Pro	Pro Gly Ser	
	2210		2215		2220
Asn Leu Arg	Thr Thr				
2225					

<210> 9
 <211> 6279
 <212> DNA
 <213> Homo sapiens

<400> 9	
atgtctggcg	gcgccgcaga gaagcagagc agcactcccc gttccctggt cctctcgccg 60
ccggctcctg	cccccaagaa tggtccagc tccgattcct ccgtggggga gaaactggga 120
gccgcggccg	ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgccacact 180
atggacaagg	acagccgtgg ggccggcccg accactacca ccaactgagca ccgcttcttc 240
cgccggagcg	tcatctgcca ctccaatgcc actgcaactgg agcttcccgg ccttctcttt 300
tcctgcccc	agcccagcat ccccgcggt gtcccgcaga gtgtccacc ggagccccac 360
cggaagaga	ccgtgaccgc caccgccact tccaggtag cccagcagcc tccagccgct 420
gccgcccctg	gggaacaggg cgctcggggc cctgccccct cgactgtccc cagcagtacc 480
agcaaagacc	gcccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcccgcg 540
gcgagaagtg	gcagcgccgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 600
caggatgata	tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 660
ctcaagtttg	acatcgaaat cggcagaggg tcctttaaga cggctctaaa aggtctggac 720
actgaaacca	ccgtggaagt cgcctggtgt gaactgcagg atcgaaaatt aacaaagtct 780
gagaggcaga	gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 840
gtagattttt	atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 900
actgaactta	tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 960
atcaaagttc	taagaagctg gtgccgtcag atccttaaaag gtcttcagtt tcttcatact 1020
cgaactccac	ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 1080
actggctcag	tcaagattgg agacctcggt ctggcaacct tgaagcgggc ttcttttgcc 1140

aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgcttg	agatggctac	atctgaatat	1260
ccttactcgg	agtgccaaaa	tgtctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtagtgtctg	tgaaggatg	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccagtagt	atctgtgtta	tctgattgga	cggttgacag	tggtcaggga	1980
tcctctgtct	tcacagaatc	tcagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	2160
cagccatcct	caagtagctt	aacaggggtt	tcattcttccc	aaccataca	acatcctcag	2220
cagcagcagg	gaatacacga	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2280
cagacatcaa	cctccagtag	ggccactact	gcacagccag	tgagtacagc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagggtcttc	cacctcgact	gccaccacag	2400
taccaggag	attcaaatat	tgtctccctc	tccaacgtgg	cttctgtttg	catccattct	2460
acagtctaw	cccctcccat	gcccagacaga	gtactggcta	cacctgggta	ctttcccaca	2520
gtgggtgcagc	cttatgtgga	atcaaatctt	ttagttccta	tgggtgggtg	aggaggacag	2580
gttcaagtgt	cccagccagg	agggagttta	gcacaagccc	ccactacatc	ctcccagcaa	2640
gcagttttgg	agagtactca	gggagtctct	caggttgctc	ctgcagagcc	agttgcagta	2700
gcacagctcc	aagctaccca	gcccagccact	ttggttccct	ctgtagacag	tgcacattca	2760
gagtgtgctt	caggtatgag	tgtaggcaat	gagaacgtcc	catcttccag	tgggaaggcat	2820
gaaggaagaa	ctacaaaacg	gcattaccga	aaatctgtaa	ggagtcgctc	tcgacatgaa	2880
aaaacttcac	gcccaaaatt	aagaattttg	aatgtttcaa	ataaaggaga	ccgagtagta	2940
gaatgtcaat	tagagactca	taataggaaa	atgggtacat	tcaaatttga	cctagatggg	3000
gacaaccccg	aggagatagc	aacaattatg	gtgaacaatg	actttattct	agcaatagag	3060
agagagtctg	ttgtggatca	agtgcgagaa	attattgaaa	aagctgatga	aatgctcagt	3120
gaggatgtca	gtgtggaaac	agaggggtgat	caggggattgg	agagtctaca	aggaaaggat	3180
gactatggct	tttcagggtt	tcagaaattg	gaaggagagt	tcaaacaacc	aattcctgcg	3240
tcttccatgc	cacagcaaat	aggcattcct	accagttctt	taactcaagt	tgttcattct	3300
gcggaaggc	ggtttatagt	gagtcctgtg	ccagaaagcc	gattacgaga	atcaaaagtt	3360
ttccccagtg	aaataacaga	tacagttgct	gcctctacag	ctcagagccc	tggaatgaac	3420
ttgtctcact	ctgcattcat	ccttagtcta	caacagccct	tttctgaact	tagacgtgcc	3480
caaatgacag	aaggacccaa	yacagcacct	ccaaacttta	gtcatacagg	accaacattt	3540
ccagtagtac	ctcctttctt	aagtagcatt	gctggagtc	caaccacagc	agcagccaca	3600
gcaccagtc	ctgcaacaag	cagccctcct	aatgacattt	ccacatcagt	aattcagttt	3660
gaggttacag	tgcccactga	agaggggatt	gctggagttg	ccaccagcac	aggtgtgggt	3720
acttcagggt	gtctccccat	accacctgtg	tctgaatac	cagtactttc	cagcgtagtt	3780
tcaagtatca	caatacctgc	agttgtctca	atatctacta	catccccgtc	acttcaagtc	3840
cccacatcca	catctgagat	cgttgtttct	agtacagcac	tgtatccttc	agtaacagtt	3900
tcagcaactt	cagcctctgc	agggggcagt	actgctaccc	caggctctaa	gcctccagct	3960
gtagtatctc	agcaggcagc	aggcagcact	actgtgggag	ccacattaac	atcagtttct	4020
accaccactt	cattcccaag	cacagcttca	cagctgtcca	ttcagcttag	cagcagttct	4080
tctactccta	cttttagctga	aaccgtggta	gttagcgcac	actcactaga	taagacatct	4140
catagcagta	caactggatt	ggctttctcc	ctctctgcac	catcttcttc	ttcctctcct	4200
ggagcaggag	tgtctagtta	tatttctcag	cctgggtggg	tgcatacctt	ggtcattcca	4260
tcagtgatag	cttctactcc	tattcttccc	caagcagcag	gacctacttc	tacaccttta	4320
ttaccccaag	tacctagtat	cccacccttg	gtacagcctg	tgccaatgt	gcctgctgta	4380
cagcagacac	taattcatag	tcagcctcaa	ccagctttgc	ttcccaacca	gccccatact	4440
cattgtcctg	aagtagattc	tgatacacaa	cccaaagctc	ctggaattga	tgacataaag	4500
actctagaag	aaaagctgcg	gtctctgttc	agtgaacaca	gtcatctgg	agctcagcat	4560
gcctctgtct	cactggagac	ctcactagtc	atagagagca	ctgtcacacc	aggcatccca	4620
actactgctg	ttgcaccaag	caaactcctg	acttctacca	caagtacttg	cttaccacca	4680
accaattttac	cactaggaac	agttgctttg	ccagttacac	cagtggtcac	acctgggcaa	4740
gtttctaccc	cagtcagcac	tactacatca	ggagtgaaac	ctggaactgc	tccttccaag	4800
ccacctctaa	ctaaggctcc	ggtgctgcca	gtgggtactg	aacttccagc	aggtagtcta	4860
cccagcgagc	agctgccacc	ttttccagga	ccttctctaa	cccagtccca	gcaacctcta	4920

gaggatcttg	atgctcaatt	gagaagaaca	cttagtccag	agatkacac	agtgacttct	4980
gcgggttggtc	ctgtgtccat	ggcgggtcca	acagcaatca	cagaagcagg	aacacagcct	5040
cagaagggtg	tttctcaagt	caaagaaggc	cctgtcctag	caactagtgc	aggagctggt	5100
gtttttaaga	tgggacgatt	tcagggttct	gttgacgag	acggtgccc	gaaagagggt	5160
aaaaataagt	cagaagatgc	aaagtctgtt	cattttgaat	ccagcacctc	agagtcctca	5220
gtgctatcaa	gtagtagtcc	agagagtacc	ttggtgaaac	cagagccgaa	tggcataacc	5280
atccctggta	tctcttcaga	tgtgccagag	agtgccaca	aaactactgc	ctcagaggca	5340
aagtcagaca	ctgggcagcc	taccaagggt	ggacgttttc	aggtgacaac	tacagcaaac	5400
aaagtgggtc	gtttctctgt	atcaaaaact	gaggacaaga	tcactgacac	aaagaaagaa	5460
ggaccagtgg	catctcctcc	ttttatggat	ttggaacaag	ctgttcttcc	tgctgtgata	5520
ccaaagaaag	agaagcctga	actgtcagag	ccttcacatc	taaattggg	gtcttctgac	5580
ccggaggccg	cttttttaag	tagggatgtg	gatgatggtt	ccggtagtcc	acactcgccc	5640
catcagctga	gctcaaagag	ccttcctagc	cagaatctaa	gtcaaagcct	tagtaattca	5700
tttaactcct	ttacatgag	tagcgacaat	gagtcagata	tcgaagatga	agacttaaa	5760
tttagagctgc	gacgactacg	agataaacat	ctcaaagaga	ttcaggacct	gcagagtcgc	5820
cagaagcatg	aaattgaatc	tttgtatacc	aaactgggca	aggtgcccc	tgctgttatt	5880
attccccag	ctgctcccc	ttcagggaga	agacgacgac	ccactaaaag	caaaggcagc	5940
aaatctagtc	gaagcagttc	cttggggaat	aaaagcccc	agctttcagg	taacctgtct	6000
ggtcagagtg	cagcttcagt	cttgaccccc	cagcagacc	tccaccctcc	tggaacatc	6060
ccagagtcgg	ggcagaatca	gctgttacg	ccccttaagc	catctccctc	cagtgcacaac	6120
ctctatttcag	ccttcaccag	tgatgggtgc	atttcagtac	caagcctttc	tgctccagg	6180
caaggaataa	agcaaccatc	atcgtccaaa	aacaataaaa	tgagatggt	gccatacctg	6240
ggacaaaagc	ctgttaaggc	gggttgggag	actagctga			6279

<210> 10
 <211> 2092
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2092)
 <223> Xaa = Any Amino Acid

<400> 10
 Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1 5 10 15
 Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30
 Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45
 Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60
 Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80
 Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95
 Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110
 Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125
 Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly
 130 135 140
 Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160
 Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
 165 170 175
 Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
 180 185 190
 Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205

Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
210						215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275					280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
290						295				300					
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355					360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370					375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405					410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
			435				440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485					490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
			500					505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
		515					520					525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
	530					535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545					550					555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
				565					570					575	
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln
			580					585					590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
			595				600					605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
	610					615					620				
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645					650					655	
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
			660					665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
		675					680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
690						695					700				
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly

Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu	Gly	Ile	Ala	Gly		
				1220												1230	
Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile	Pro		
				1235						1240						1245	
Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser	Ser	Ile	Thr		
				1250						1255						1260	
Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln	Val		
				1265						1270						1280	
Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr	Ala	Leu	Tyr	Pro		
				1285						1290						1295	
Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr	Ala		
				1300						1305						1310	
Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	Gln	Ala	Ala	Gly		
				1315						1320						1325	
Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr	Ser		
				1330						1335						1340	
Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser	Thr		
				1345						1350						1360	
Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	Ala	His	Ser	Leu		
				1365						1370						1375	
Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu	Ser		
				1380						1385						1390	
Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr	Ile		
				1395						1400						1405	
Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	Ala		
				1410						1415						1420	
Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	Leu		
				1425						1430						1440	
Leu	Pro	Gln	Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	Asn		
				1445						1450						1455	
Val	Pro	Ala	Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	Ala		
				1460						1465						1470	
Leu	Leu	Pro	Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	Val	Asp	Ser	Asp		
				1475						1480						1485	
Thr	Gln	Pro	Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	Glu		
				1490						1495						1500	
Lys	Leu	Arg	Ser	Leu	Phe	Ser	Glu	His	Ser	Ser	Ser	Gly	Ala	Gln	His		
				1505						1510						1520	
Ala	Ser	Val	Ser	Leu	Glu	Thr	Ser	Leu	Val	Ile	Glu	Ser	Thr	Val	Thr		
				1525						1530						1535	
Pro	Gly	Ile	Pro	Thr	Thr	Ala	Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	Ser		
				1540						1545						1550	
Thr	Thr	Ser	Thr	Cys	Leu	Pro	Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	Val		
				1555						1560						1565	
Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	Pro		
				1570						1575						1580	
Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	Lys		
				1585						1590						1600	
Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	Pro		
				1605						1610						1615	
Ala	Gly	Thr	Leu	Pro	Ser	Glu	Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	Ser		
				1620						1625						1630	
Leu	Thr	Gln	Ser	Gln	Gln	Pro	Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	Arg		
				1635						1640						1645	
Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	Pro		
				1650						1655						1660	
Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	Pro		
				1665						1670						1680	
Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	Ser		
				1685						1690						1695	
Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly	Arg	Phe	Gln	Val	Ser	Val	Ala		
				1700						1705						1710	
Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	Lys		

1715	1720	1725
Ser Val His Phe Glu Ser Ser Thr Ser Glu Ser Ser Val Leu Ser Ser		
1730	1735	1740
Ser Ser Pro Glu Ser Thr Leu Val Lys Pro Glu Pro Asn Gly Ile Thr		
1745	1750	1755
Ile Pro Gly Ile Ser Ser Asp Val Pro Glu Ser Ala His Lys Thr Thr		
1765	1770	1775
Ala Ser Glu Ala Lys Ser Asp Thr Gly Gln Pro Thr Lys Val Gly Arg		
1780	1785	1790
Phe Gln Val Thr Thr Thr Ala Asn Lys Val Gly Arg Phe Ser Val Ser		
1795	1800	1805
Lys Thr Glu Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly Pro Val Ala		
1810	1815	1820
Ser Pro Pro Phe Met Asp Leu Glu Gln Ala Val Leu Pro Ala Val Ile		
1825	1830	1835
Pro Lys Lys Glu Lys Pro Glu Leu Ser Glu Pro Ser His Leu Asn Gly		
1845	1850	1855
Pro Ser Ser Asp Pro Glu Ala Ala Phe Leu Ser Arg Asp Val Asp Asp		
1860	1865	1870
Gly Ser Gly Ser Pro His Ser Pro His Gln Leu Ser Ser Lys Ser Leu		
1875	1880	1885
Pro Ser Gln Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe Asn Ser Ser		
1890	1895	1900
Tyr Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys		
1905	1910	1915
Leu Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp		
1925	1930	1935
Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu		
1940	1945	1950
Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser		
1955	1960	1965
Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg		
1970	1975	1980
Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser		
1985	1990	1995
Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro		
2005	2010	2015
Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu		
2020	2025	2030
Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp		
2035	2040	2045
Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Ile Lys		
2050	2055	2060
Gln Pro Ser Ser Ser Lys Asn Asn Lys Met Glu Met Leu Pro Tyr Leu		
2065	2070	2075
Gly Gln Lys Pro Val Lys Ala Gly Trp Glu Thr Ser		
2085	2090	

<210> 11
 <211> 2490
 <212> DNA
 <213> Homo sapiens

<400> 11	
atgtctggcg ggcgcgcaga gaagcagagc agcactcccc gttccctggt cctctcgccg	60
ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga	120
gccgcggccg ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgcccact	180
atggacaagg acagccgtgg ggccggccgc accactacca ccaactgagca ccgcttcttc	240
cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttcctctt	300
tccctgcccc agcccagcat ccccgccggt gtccgcgaga gtgctccacc ggagccccac	360
cggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct	420
gccgcccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc	480
agcaaagacc gcccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcgcgcg	540

gcgagaagtg	gcagcgggcg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaca	aggtctggac	720
actgaaacca	ccgtggaagt	cgcttgggtg	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaagggttaa	agtgatgaag	960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctg	agatggctac	atctgaatat	1260
ccttactcgg	agtgccaaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtagcggg	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaagc	aggaagagag	cagtcctcaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1980
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtcctcag	cccatggggg	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggg	2160
cagccatcct	caagtagctt	aacagggggt	tcactctccc	aaccataca	acatcctcag	2220
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2280
cagacatcaa	cctccagtg	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagggcttcc	cacctcgact	gccaccacag	2400
taccagggag	attcaaatat	tgctccctct	tccaacgtgg	cttctgtttg	catccattct	2460
acagtccata	cccctatacc	ttctgcataa				2490

<210> 12
 <211> 829
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> (1)...(829)
 <223> Xaa = Any Amino Acid

<400> 12
 Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1 5 10 15
 Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30
 Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45
 Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60
 Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80
 Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95
 Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110
 Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125
 Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130 135 140

Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
				165					170					175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
		195					200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210					215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225				230						235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
	275					280						285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
	290					295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305				310						315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
			325						330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
	355					360						365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370					375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385				390						395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
			405						410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
	435					440						445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465				470						475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
			485						490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
			500					505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
	515					520						525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
	530					535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545				550						555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
			565						570					575	
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Ser	Ser	Leu	Lys	Gln	Gln	
			580				585						590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
	595					600						605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
	610					615					620				
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625				630						635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp

Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
			660					665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
	675						680				685				
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
	690					695					700				
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly
705				710						715					720
Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Gln	Pro	Ile
			725					730						735	
Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln
		740						745					750		
Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala
	755					760					765				
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro
	770					775					780				
Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln
785					790					795					800
Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val
			805					810						815	
Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Ile	Pro	Ser	Ala			
			820					825							

<210> 13
 <211> 6411
 <212> DNA
 <213> Homo sapiens

<400> 13																			
atgtctggcg	gcgccgcaga	gaagcagagc	agcactcccg	gttccctggt	cctctcgccg														60
ccggtcctcg	cccccaagaa	tggtccagc	tccgattcct	ccgtggggga	gaaactggga														120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact														180
atggacaagg	acagccgtgg	ggcgggcccg	accactacca	ccactgagca	ccgtttcttc														240
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccg	ccttctctct														300
tccctgcccc	agcccagcat	ccccgcggct	gtcccgcaga	gtgctccacc	ggagccccac														360
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct														420
gccgccccctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc														480
agcaaagacc	gcccagtgtc	ccagcctagc	cttgtgggga	gcaaagagga	gccgcccgcg														540
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag														600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt														660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggtctggac														720
actgaaacca	ccgtggaagt	cgcttggtgt	gaactgcagg	atcgaaaatt	aacaaagtct														780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt														840
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttgggtg														900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag														960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact														1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct														1080
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc														1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat														1200
gaatccgttg	acgttttatg	ttttgggatg	tgcatgcttg	agatggctac	atctgaatat														1260
ccttactcgg	agtgccaaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag														1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata														1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacctatg	cttcttccaa														1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata														1500
aaattattgg	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa														1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg														1620
gtagagtctg	ggtatgtctg	tgaaggtgat	cacaagacca	tggctaaaagc	tatcaaagac														1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa														1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag														1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca														1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta														1920
cgttagattc	aacctgatat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga														1980

tcctctgtct	tcacagaatc	tcgagtgcgc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgccaagca	2100
cagtctcagc	cccatggggt	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	2160
cagccatcct	caagtagctt	aacagggggt	tcacttctcc	aaccataca	acatcctcag	2220
cagcagcagg	gaatacagca	gacagcccct	cctcaacaga	cagtgcagta	ttcactttca	2280
cagacatcaa	cctccagtg	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagagtactc	agggagtctc	tcaggttgct	2400
cctgcagagc	cagttgcagt	agcacagccc	caagctaccc	agccgaccac	tttggcttcc	2460
tctgtagaca	gtgcacattc	agatgttgct	tcaggatga	gtgatggcaa	tgagaacgct	2520
ccatcttcca	gtggaaggca	tgaaggaaga	actacaaaac	ggcattaccg	aaaatctgta	2580
aggagtgcgt	ctcgacatga	aaaaacttca	cgcccaaat	taagaatttt	gaatgtttca	2640
aataaaggag	accgagtagt	agaatgtcaa	ttagagactc	ataataggaa	aatgggtaca	2700
ttcaaatttg	acctagatgg	tgacaacccc	gaggagatag	caacaattat	ggtgaacaat	2760
gactttattc	tagcaatgaa	gagagagtcg	tttgtggatc	aagtgcgaga	aattattgaa	2820
aaagctgatg	aaatgctcag	tgaggatgtc	agtgtggaac	cagaggggtga	tcaggggattg	2880
gagagtctac	aaggaaagga	tgactatggc	ttttcaggtt	ctcagaaatt	ggaaggagag	2940
ttcaaacaac	caattcctgc	gtcttccatg	ccacagcaaa	taggcattcc	taccagttct	3000
ttaactcaag	ttgttcattc	tgcggaagg	cggtttatag	tgagtcctgt	gccagaaaagc	3060
cgattacgag	aatcaaaagt	tttcccagtc	gaaataacag	atacagttgc	tgccctctaca	3120
gtcagagacc	ctggaatgaa	cttgtctcac	tctgcatcat	cccttagtct	acaacaggcc	3180
ttttctgaac	ttagacgtgc	ccaaatgaca	gaaggacca	ayacagcacc	tccaaacttt	3240
agtcatacag	gaccaacatt	tccagtagta	cctcctttct	taagtagcat	tgctggagtc	3300
ccaaccacag	cagcagccac	agcaccagtc	cctgcaacaa	gcagccctcc	taatgacatt	3360
tocacatcag	taattcagtc	tgaggttaca	gtgccactg	aagaggggat	tgctggagtt	3420
gccaccagca	caggtgtggt	aacttcaggt	ggtctcccca	taccacctgt	gtctgaatca	3480
ccagtacttt	ccagcgtagt	ttcaagtatc	acaatacctg	cagttgtctc	aatatctact	3540
acatccccgt	ccactcaagt	ccccacatcc	acatctgaga	tcgttggttc	tagtacagca	3600
ctgtatcctt	cagtaacagt	ttcagcaact	tcagcctctg	cagggggcag	tactgctacc	3660
ccaggtccta	agcctccagc	tgtagtatct	cagcaggcag	caggcagcac	tactgtggga	3720
gccacattaa	catcagtttc	taccaccact	tcattcccaa	gcacagcttc	acagctgtcc	3780
attcagctta	gcagcagtac	ttctactcct	actttagctg	aaaccgtggt	agttagcgca	3840
cactcactag	ataagacatc	tcatagcagt	acaactggat	tggtttctc	cctctctgca	3900
ccatcttctc	cttccctctc	tggagcagga	gtgtctagtt	atattttctca	gcctgggtggg	3960
ctgcatecct	tggtcattcc	atcagtgata	gcttctactc	ctattcttcc	ccaagcagca	4020
ggacctactt	ctacaccttt	attaccccaa	gtacctagta	tcccaccctt	ggtacagcct	4080
gttgccaatg	tgctgtctgt	acagcagaca	ctaattcata	gtcagcctca	accagctttg	4140
cttcccaacc	agccccatac	tcattgtcct	gaagtagatt	ctgatacaca	acccaaagct	4200
cctggaattg	atgacataaa	gactctagaa	gaaaagctgc	ggtctctggt	cagtgaacac	4260
agctcatctg	gagctcagca	tgctctgtc	tcactggaga	cctcactagt	catagagagc	4320
actgtcacac	caggcatccc	aactactgct	gttgaccaaa	gcaaactcct	gacttctacc	4380
acaagtactt	gcttaccacc	aaccaattta	ccactaggaa	cagttgcttt	gccagttaca	4440
ccagtggtea	cacctgggca	agtttctacc	ccagtcagca	ctactacatc	aggagtgaag	4500
cctggaactg	ctccctccaa	gccacctcta	actaaggctc	cgggtgctgcc	agtggtgact	4560
gaacttccag	caggtactct	accagcgag	cagctgccac	cttttccagg	accttctcta	4620
accagtcctc	agcaacctct	agaggatctt	gatgtctcaat	tgagaagaac	acttagtcca	4680
gagatkata	cagtgaactt	tgcggttggt	cctgtgtcca	tgccggctcc	aacagcaatc	4740
acagaagcag	gaacacagcc	tcagaagggt	gtttctcaag	tcaaagaagg	cctgtccta	4800
gcaactagtt	caggagctgg	tggttttaag	atgggacgat	ttcaggtttc	tggtgcagca	4860
gacggtgcc	agaaagaggg	taaaaataag	tcagaagatg	caaagtctgt	tcattttgaa	4920
tccagcacct	cagagtcctc	agtgtctatc	agtagtagtc	cagagagtac	cttgggtgaa	4980
ccagagccga	atggcataac	catccctggt	atctcttcag	atgtgccaga	gagtgcccac	5040
aaaactactg	cctcagaggc	aaagtcagac	actgggcagc	ctaccaaggt	tggaagcttt	5100
caggtgacaa	ctacagcaaa	caaagtgggt	cgtttctctg	tatcaaaaac	tgaggacaag	5160
atcactgaca	caaagaaaga	aggaccagtg	gcactctctc	cttttatgga	tttggaacaa	5220
gctgttcttc	ctgctgtgat	accaaagaaa	gagaagcctg	aactgtcaga	gccttcacat	5280
ctaaatgggc	cgtcttctga	cccggaggcc	gcttttttaa	gtagggatgt	ggatgatggt	5340
tccggtagtc	cacactcgcc	ccatcagctg	agctcaaaga	gccttcttag	ccagaatcta	5400
agtcaaagcc	ttagtaattc	atttaactcc	tcttacatga	gtagcgacaa	tgagttagat	5460
atcgaagatg	aagacttaaa	gttagagctg	cgacgactac	gagataaaca	tctcaaagag	5520
attcaggacc	tgtagagctg	ccagaagcat	gaaattgaat	ctttgtatac	caaactgggc	5580
aaggtgcccc	ctgctgttat	tattccccca	gctgtctccc	tttcaggggag	aagacgcagca	5640
cccactaaaa	gcaaaggcag	caaactctagt	cgaagcagtt	ccttggggaa	taaaagcccc	5700
cagctttcag	gtaacctgtc	tggtcagagt	gcagcttcag	tcttgacccc	ccagcagacc	5760

```

ctccaccctc ctggcaacat cccagagtcg gggcagaatc agctgttaca gccccttaag 5820
ccatctccct ccagtgacaa cctctattca gccttcacca gtgatggtgc catttcagta 5880
ccaagccttt ctgctccagg tcaaggaacc agcagcacaa acactgttgg ggcaacagtg 5940
aacagccaag cgcgccaagc tcagcctcct gccatgacgt ccagcaggaa gggcacattc 6000
acagatgact tgcacaagtt ggtagacaat tgggcccagag atgccatgaa tctctcaggc 6060
aggagaggaa gcaaagggca catgaattat gagggccctg gaatggcaag gaagttctct 6120
gcacctgggc aactgtgcat ctccatgacc tcgaacctgg gtggctctgc ccccatctct 6180
gcagcatcag ctacctctct aggtcacttc accaagtcta tgtgcccccc acagcagtat 6240
ggctttccag ctacccatt tggcgctcaa tggagtggga cgggtggccc agcaccacag 6300
ccacttggcc agttccaacc tgtgggaact gcctccttgc agaatttcaa catcagcaat 6360
ttgcagaaat ccacagcaa cccccaggc tccaacctgc ggaccactta g 6411

```

```

<210> 14
<211> 2136
<212> PRT
<213> Homo sapiens

```

```

<220>
<221> VARIANT
<222> (1)...(2136)
<223> Xaa = Any Amino Acid

```

```

<400> 14
Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
1          5          10          15
Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
20          25          30
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
35          40          45
Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
50          55          60
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
65          70          75          80
Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
85          90          95
Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
100         105         110
Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
115         120         125
Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly
130         135         140
Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
145         150         155         160
Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
165         170         175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
180         185         190
Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu
195         200         205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
210         215         220
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
225         230         235         240
Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
245         250         255
Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
260         265         270
Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
275         280         285
Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
290         295         300

```

Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330						335
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355					360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
		370				375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405					410						415
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425						430	
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
		450				455						460			
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
			485						490						495
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
			500					505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
		515					520					525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
		530				535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545					550					555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
			565						570						575
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln
			580				585						590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
		595					600					605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
		610				615						620			
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
			645						650						655
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
		660						665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
		675					680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
		690				695						700			
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly
705					710					715					720
Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Gln	Pro	Ile
			725						730						735
Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln
		740					745						750		
Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala
		755					760					765			
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro
		770				775					780				
Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala
785					790					795					800
Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr

				805					810					815			
Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly		
			820					825					830				
Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu		
		835					840					845					
Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser		
	850					855					860						
Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser		
865					870					875					880		
Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg		
			885					890						895			
Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu		
		900						905					910				
Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg		
	915					920						925					
Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu		
	930					935					940						
Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu		
945				950						955					960		
Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys		
			965					970						975			
Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln		
		980						985					990				
Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala		
	995					1000						1005					
Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu		
	1010					1015						1020					
Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr		
1025				1030						1035					1040		
Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu	Ser		
			1045					1050						1055			
Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly		
		1060						1065					1070				
Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro		
	1075					1080						1085					
Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr	Ala		
	1090					1095					1100						
Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile		
1105				1110						1115					1120		
Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu	Gly		
			1125						1130					1135			
Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu		
	1140							1145					1150				
Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser		
	1155					1160						1165					
Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser		
	1170					1175					1180						
Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr	Ala		
1185				1190						1195					1200		
Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly		
			1205					1210						1215			
Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	Gln		
		1220						1225					1230				
Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr		
	1235						1240						1245				
Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser		
	1250					1255						1260					
Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	Ala		
1265				1270						1275					1280		
His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe		
			1285					1290						1295			
Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser		
		1300						1305					1310				

Ser Tyr Ile Ser Gln Pro Gly Gly Leu His Pro Leu Val Ile Pro Ser	1315	1320	1325
Val Ile Ala Ser Thr Pro Ile Leu Pro Gln Ala Ala Gly Pro Thr Ser	1330	1335	1340
Thr Pro Leu Leu Pro Gln Val Pro Ser Ile Pro Pro Leu Val Gln Pro	1345	1350	1355
Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu Ile His Ser Gln Pro	1365	1370	1375
Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr His Cys Pro Glu Val	1380	1385	1390
Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly Ile Asp Asp Ile Lys Thr	1395	1400	1405
Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu His Ser Ser Ser Gly	1410	1415	1420
Ala Gln His Ala Ser Val Ser Leu Glu Thr Ser Leu Val Ile Glu Ser	1425	1430	1435
Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala Pro Ser Lys Leu	1445	1450	1455
Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr Asn Leu Pro Leu	1460	1465	1470
Gly Thr Val Ala Leu Pro Val Thr Pro Val Val Thr Pro Gly Gln Val	1475	1480	1485
Ser Thr Pro Val Ser Thr Thr Thr Ser Gly Val Lys Pro Gly Thr Ala	1490	1495	1500
Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro Val Leu Pro Val Gly Thr	1505	1510	1515
Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu Gln Leu Pro Pro Phe Pro	1525	1530	1535
Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro Leu Glu Asp Leu Asp Ala	1540	1545	1550
Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile Thr Val Thr Ser Ala	1555	1560	1565
Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala Ile Thr Glu Ala Gly	1570	1575	1580
Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys Glu Gly Pro Val Leu	1585	1590	1595
Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met Gly Arg Phe Gln Val	1605	1610	1615
Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly Lys Asn Lys Ser Glu	1620	1625	1630
Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr Ser Glu Ser Ser Val	1635	1640	1645
Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu Val Lys Pro Glu Pro Asn	1650	1655	1660
Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val Pro Glu Ser Ala His	1665	1670	1675
Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr Gly Gln Pro Thr Lys	1685	1690	1695
Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn Lys Val Gly Arg Phe	1700	1705	1710
Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly	1715	1720	1725
Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu Gln Ala Val Leu Pro	1730	1735	1740
Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu Ser Glu Pro Ser His	1745	1750	1755
Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Ala Phe Leu Ser Arg Asp	1765	1770	1775
Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro His Gln Leu Ser Ser	1780	1785	1790
Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe	1795	1800	1805
Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu			

1810	1815	1820
Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys Glu		
1825	1830	1835
Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr		1840
	1845	1850
Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala		1855
	1860	1865
Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys		1870
	1875	1880
Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly		1885
	1890	1895
Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr		1900
1905	1910	1915
Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu		1920
	1925	1930
Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe		1935
	1940	1945
Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln		1950
	1955	1960
Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala		1965
	1970	1975
Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe		1980
1985	1990	1995
Thr Asp Asp Leu His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala Met		2000
	2005	2010
Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu Gly		2015
	2020	2025
Pro Gly Met Ala Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser		2030
	2035	2040
Met Thr Ser Asn Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala		2045
	2050	2055
Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr		2060
2065	2070	2075
Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly		2080
	2085	2090
Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala Ser		2095
	2100	2105
Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro		2110
	2115	2120
Pro Gly Ser Asn Leu Arg Thr Thr		2125
	2130	2135

<210> 15
 <211> 6000
 <212> DNA
 <213> Homo sapiens

<400> 15	
atgtctggcg ggcgcgcaga gaagcagagc agcactcccg gttccctggt cctctcgcgc	60
ccggtcctcg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga	120
gccgcggccg ccgacgtgtg gaccggcagg accgaggagt acaggcgcgc ccgccacact	180
atggacaagg acagccgtgg ggcgggccgcg accactacca ccactgagca ccgcttcttc	240
cgccggagcg tcactctgca ctccaatgcc actgcactgg agcttcccgc ccttctcttt	300
tccctgcccc agcccagcat ccccgcggt gtcccgcaga gtgctccacc ggagccccac	360
cggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct	420
gccgcccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc	480
agcaaagacc gccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcccgcg	540
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag	600
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt	660
ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggctacaa aggtctggac	720
actgaaacca ccgtggaagt cgcttggtgt gaactgcagg atcgaaaatt aacaaagtct	780
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt	840
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg	900

actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag	960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1260
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtagaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaaggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcggg	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtcctcaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aacctcagat	atctgtgtta	tctgatggga	cggttgacag	tgggtcagggg	1980
tctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagttctcagc	cccatggggg	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	2160
cagccatcct	caagtagctt	aacagggggt	tcactctccc	aacctataca	acatcctcag	2220
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2280
cagacatcaa	cctccagtg	ggccactact	gcacagccag	tgagtccagc	tcaagctcca	2340
caagtcttgc	ctcaagtatc	agctggaaaa	cagagtactc	agggagtctc	tcaggttgct	2400
cctgcagagc	cagttgcagt	agcacagccc	caagctaccc	agccgaccac	tttggcttcc	2460
tctgtagaca	gtgcacattc	agatgttgct	tcaggtatga	gtgatggcaa	tgagaacgct	2520
ccatcttcca	gtggaaggca	tgaaggaaga	actacaaaac	ggcattaccg	aaaatctgta	2580
aggagtgcgt	ctcgacatga	aaaaacttca	cgcccaaaat	taagaatttt	gaatgtttca	2640
aataaaggag	accgagtagt	agaatgtcaa	ttagagactc	ataataggaa	aatgggtaca	2700
ttcaaatttg	acctagatgg	tgacaacccc	gaggagatag	caacaattat	ggtgaacaat	2760
gactttatct	tagcaataga	gagagagtcg	tttgtggatc	aagtgcgaga	aattattgaa	2820
aaagtctgat	aaatgctcag	tgaggatgtc	agtgtggaac	cagaggggtga	tcagggattg	2880
gagagtctac	aaggaaagga	tgactatggc	ttttcaggtt	ctcagaaaatt	ggaaggagag	2940
ttcaaacaac	caattcctgc	gtcttccatg	ccacagcaaa	taggcattcc	taccagttct	3000
ttaactcaag	ttgttcattc	tgcggaagg	cggtttatag	tgagtccctg	gccagaaagc	3060
cgattacgag	aatcaaaagt	tttcccagct	gaaataacag	atacagttgc	tgctcttaca	3120
gctcagagcc	ctggaatgaa	cttgtctcac	tctgcatcat	cccttagtct	acaacaggcc	3180
ttttctgaac	ttagacgtgc	ccaaatgaca	gaaggaccca	ayacagcacc	tccaaacttt	3240
agtcatacag	gaccaacatt	tccagtagta	cctcctttct	taagtagcat	tgctggagtc	3300
ccaaccacag	cagcagccac	agcaccagtc	cctgcaacaa	gcagccctcc	taatgacatt	3360
tcacatcag	taattcagtc	tgaggttaca	gtgccactg	aagaggggat	tgctggagtt	3420
gccaccagca	caggtgtggt	aacttcaggt	ggtctcccca	taccacctgt	gtctgaatca	3480
ccagtagctt	ccagcgtagt	ttcaagtatc	acaatacctg	cagttgtctc	aatatctact	3540
acatcccctg	cacttcatag	ccccacatcc	acatctgaga	tcgttggttc	tagtacagca	3600
ctgtatcctt	cagtaacagt	ttcagcaact	tcagcctctg	cagggggcag	tactgtctacc	3660
ccaggtccta	agcctccagc	tgtagtatct	cagcaggcag	caggcagcac	tactgtggga	3720
gccacattaa	catcagtttc	taccaccact	tcattcccaa	gcacagcttc	acagctgtcc	3780
attcagctta	gcagcagtac	ttctactcct	acttttagctg	aaacctgggt	agtttagcgca	3840
cactcactag	ataagacatc	tcatagcagt	acaactggat	tggctttctc	cctctctgca	3900
ccatcttctc	cttctctctc	tggagcagga	gtgtctagtt	atatttctca	gcctgggtggg	3960
ctgcatcctt	tggctattcc	atcagtgata	gcttctactc	ctattcttcc	ccaagcagca	4020
ggacctactt	ctacaccttt	attaccccaa	gtacctagta	tcccaccctt	ggtacagcct	4080
ggtgccaatg	tgcttctgtg	acagcagaca	ctaattcata	gtcagcctca	accagctttg	4140
cttcccaacc	agccccatac	tcattgtcct	gaagtagatt	ctgatacaca	acccaaagct	4200
cctggaattg	atgacataaa	gactctagaa	gaaaagctgc	ggtctctgtt	cagtgaacac	4260
agctcatctg	gagctcagca	tgctctgttc	tcactgaga	cctcactagt	catagagagc	4320
actgtcacac	caggcatccc	aactactgct	ggtgcaccaa	gcaaaactct	gacttctacc	4380
acaagtactt	gcttaccacc	aaccaattta	ccactaggaa	cagttgcttt	gccagttaca	4440
ccagtggtca	caactgggca	agtttctacc	ccagtcagca	ctactacatc	aggagtgaag	4500
cctggaactg	ctccctccaa	gccacctcta	actaaggctc	cggtagctgcc	agtggtgact	4560
gaacttccag	caggtactct	acccagcgag	cagctgccac	cttttccagg	accttctcta	4620
accagtcctc	agcaacctct	agaggatctt	gatgtcfaat	tgagaagaac	acttagtcca	4680

Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
210						215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
			275				280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
			290			295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
			355				360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
			370			375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405					410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
			435				440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
			450			455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485					490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
			500					505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
			515				520					525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
			530			535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545					550					555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
				565					570					575	
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln
				580				585					590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
				595			600					605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
						615					620				
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645					650					655	
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
			660					665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
			675				680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
						695					700				
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	Gln	Ser	Gln	Gly

705	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	Ser	Gln	Pro	Ile
					725					730					735	
Gln	His	Pro	Gln	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln
			740					745						750		
Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	
		755					760					765				
Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	
	770					775					780					
Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	
785					790					795					800	
Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	
				805					810					815		
Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	
			820				825						830			
Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	
		835					840					845				
Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	
	850					855					860					
Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	
865					870					875					880	
Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	
				885					890					895		
Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	
		900					905						910			
Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	
		915					920					925				
Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	
	930					935					940					
Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	
945					950					955					960	
Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	
			965					970						975		
Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	
		980					985						990			
Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala	
	995					1000						1005				
Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu	
	1010					1015					1020					
Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr	
1025					1030					1035					1040	
Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu	Ser	
			1045					1050						1055		
Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly	
		1060						1065					1070			
Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	
		1075				1080						1085				
Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr	Ala	
	1090					1095					1100					
Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile	
1105					1110					1115					1120	
Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu	Gly	
			1125						1130					1135		
Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	
		1140						1145					1150			
Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser	
		1155					1160					1165				
Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	
	1170					1175					1180					
Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr	Ala	
1185					1190					1195					1200	
Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	
				1205					1210					1215		

Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro Ala Val Val Ser Gln Gln
1220 1225 1230
Ala Ala Gly Ser Thr Thr Val Gly Ala Thr Leu Thr Ser Val Ser Thr
1235 1240 1245
Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln Leu Ser Ile Gln Leu Ser
1250 1255 1260
Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu Thr Val Val Val Ser Ala
1265 1270 1275 1280
His Ser Leu Asp Lys Thr Ser His Ser Ser Thr Thr Gly Leu Ala Phe
1285 1290 1295
Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser Pro Gly Ala Gly Val Ser
1300 1305 1310
Ser Tyr Ile Ser Gln Pro Gly Gly Leu His Pro Leu Val Ile Pro Ser
1315 1320 1325
Val Ile Ala Ser Thr Pro Ile Leu Pro Gln Ala Ala Gly Pro Thr Ser
1330 1335 1340
Thr Pro Leu Leu Pro Gln Val Pro Ser Ile Pro Pro Leu Val Gln Pro
1345 1350 1355 1360
Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu Ile His Ser Gln Pro
1365 1370 1375
Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr His Cys Pro Glu Val
1380 1385 1390
Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly Ile Asp Asp Ile Lys Thr
1395 1400 1405
Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu His Ser Ser Ser Gly
1410 1415 1420
Ala Gln His Ala Ser Val Ser Leu Glu Thr Ser Leu Val Ile Glu Ser
1425 1430 1435 1440
Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala Pro Ser Lys Leu
1445 1450 1455
Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr Asn Leu Pro Leu
1460 1465 1470
Gly Thr Val Ala Leu Pro Val Thr Pro Val Val Thr Pro Gly Gln Val
1475 1480 1485
Ser Thr Pro Val Ser Thr Thr Thr Ser Gly Val Lys Pro Gly Thr Ala
1490 1495 1500
Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro Val Leu Pro Val Gly Thr
1505 1510 1515 1520
Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu Gln Leu Pro Pro Phe Pro
1525 1530 1535
Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro Leu Glu Asp Leu Asp Ala
1540 1545 1550
Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile Thr Val Thr Ser Ala
1555 1560 1565
Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala Ile Thr Glu Ala Gly
1570 1575 1580
Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys Glu Gly Pro Val Leu
1585 1590 1595 1600
Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met Gly Arg Phe Gln Val
1605 1610 1615
Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly Lys Asn Lys Ser Glu
1620 1625 1630
Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr Ser Glu Ser Ser Val
1635 1640 1645
Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu Val Lys Pro Glu Pro Asn
1650 1655 1660
Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val Pro Glu Ser Ala His
1665 1670 1675 1680
Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr Gly Gln Pro Thr Lys
1685 1690 1695
Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn Lys Val Gly Arg Phe
1700 1705 1710
Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly

1715	1720	1725
Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu Gln Ala Val Leu Pro		
1730	1735	1740
Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu Ser Glu Pro Ser His		
1745	1750	1755
Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Phe Leu Ser Arg Asp		1760
	1765	1770
Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro His Gln Leu Ser Ser		1775
	1780	1785
Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe		1790
	1795	1800
Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu		1805
	1810	1815
Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys Glu		1820
1825	1830	1835
Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr		1840
	1845	1850
Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala		1855
	1860	1865
Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys		1870
	1875	1880
Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly		1885
	1890	1895
Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr		1900
1905	1910	1915
Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu		1920
	1925	1930
Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe		1935
	1940	1945
Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln		1950
	1955	1960
Gly Ile Lys Gln Pro Ser Ser Ser Lys Asn Asn Lys Met Glu Met Leu		1965
	1970	1975
Pro Tyr Leu Gly Gln Lys Pro Val Lys Ala Gly Trp Glu Thr Ser		1980
1985	1990	1995

<210> 17
 <211> 7065
 <212> DNA
 <213> Homo sapiens

<400> 17	
atgtctggcg ggcgcgcaga gaagcagagc agcactcccg gttccctggt cctctcgccg	60
ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga	120
gccgcggccg ccgacgtgt gaccggcagg accgaggagt acaggcgccg ccgccacact	180
atggacaagg acagccgtgg ggccggcccg accactacca ccactgagca ccgcttcttc	240
cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttctcttt	300
tccctgcccc agcccagcat ccccgcggt gtcccgcaga gtgctccacc ggagccccac	360
cgggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct	420
gccgccccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc	480
agcaaagacc gccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcccgcg	540
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag	600
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt	660
ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cgggtctacaa aggtctggac	720
actgaaacca ccgtggaagt cgctgggtgt gaactgcagg atcgaaaatt aacaaagtct	780
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt	840
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg	900
actgaactta tgacgtctgg aacacttaaa acgtatctga aaagggttaa agtgatgaag	960
atcaaagttc taagaagctg gtgccgtcag atccttaaaag gtcttcagtt tcttcatact	1020
cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct	1080
actggctcag tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc	1140
aagagtgtga taggtacccc agagttcatg gccctgaga tgtatgagga gaaatatgat	1200
gaatccgttg acgtttatgc ttttgggatg tgcatgcttg agatggctac atctgaatat	1260

ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacccatgc	cttctttccaa	1440
gaggaacacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgtttgc	acaagaaatg	1620
gtagagtctg	ggatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagggga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcctac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccagctat	atctgtgtta	tctgatggga	cgggtgacag	tggtcagggga	1980
tctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagttttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tggtccaagca	2100
cagtctcagc	cccatgggggt	atatccaccc	tcaagtgtgc	agcaggggaat	acagcagaca	2160
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagtgag	tcagcctcaa	gctccacaag	tcttgccctca	agtatcagct	2280
ggaaaacagc	ttccagtttc	ccagccagta	ccaactatcc	aaggcgaacc	tcagatccca	2340
gttgcgacac	aacctctcgt	tggtccagtc	cactctgggtg	ctcattttcct	tccagtggga	2400
cagccgctcc	ctactccctt	gtccctccag	tacctgtct	ctcagattcc	catatcaact	2460
cctcatgtgt	ctacggctca	gacagggttc	tcctcccttc	ccatcacaa	ggcagctggc	2520
attactcagc	ctctgtctac	gttggtttca	tctgtacaaa	cagctgcat	cccgggggta	2580
tcaactgtgg	ttcctagtca	gcttccaacc	cttctgcagc	ctgtgactca	gctgccaa	2640
cagggttcacc	cacagctcct	acaaccagca	gttcagttca	tggaataacc	agctaacctt	2700
ggacaagctg	ctgaggttcc	actttctct	ggagatgttc	tgtaccaggg	cttcccacct	2760
gcactgccac	cacagtacc	aggagattca	aatattgtct	cctcttccaa	cgtggcttct	2820
gtttgcatcc	attctacagt	cctawccct	cccatgccga	cagaagtact	ggctacacct	2880
gggtactttc	ccacagtggg	gcagccttat	gtggaatcaa	atcttttagt	tcctatgggt	2940
ggtgtaggag	gacaggttca	agtgtcccag	ccaggaggga	gttttagcaca	agccccact	3000
acatcctccc	agcaagcagt	tttgagagag	actcaggag	tctctcaggt	tgctcctgca	3060
gagccagttg	cagtagcaca	gccccaaagt	accagccga	ccactttggc	ttcctctgta	3120
gagctgacac	attcagatgt	tgcttcaggt	atgagtgatg	gcaatgagaa	cgtcccatct	3180
tccagtgga	ggcatgaagg	aagaactaca	aaacggcatt	accgaaaatc	tgtaaggagt	3240
cgctctcgac	atgaaaaaac	ttcacgcccc	aaattaagaa	ttttgaatgt	ttcaaataaa	3300
ggagaccgag	tagtagaatg	tcaattagag	actcataata	ggaaaatggg	tacattcaaa	3360
tttgacctag	atggtgacaa	ccccgaggag	atagcaacaa	ttatgggtgaa	caatgacttt	3420
attctagcaa	tagagagaga	gtcgtttgtg	gatcaagtgc	gagaaattat	tgaaaaagct	3480
gatgaaatgc	tcagttagga	tgctcagttg	gaaccagagg	gtgatcaggg	attggagagt	3540
ctacaaggaa	aggatgacta	tggcttttca	ggttctcaga	aattggaagg	agagttcaaa	3600
caaccaattc	ctgcgtcttc	catgccacag	caaataaggca	ttcctaccag	ttctttaact	3660
caagttgttc	attctgcggg	aaggcgggtt	atagttagtc	ctgtgccaga	aagccgatta	3720
cgagaatcaa	aagttttccc	cagtgaataa	acagatacag	ttgctgcctc	tacagctcag	3780
agccttgga	tgaacttgtc	tcactctgca	tcctccctta	gtctacaaca	ggccttttct	3840
gaacttagac	gtgcccacaa	gacagaagga	cccaayacag	cacctccaaa	ctttagtcat	3900
acaggaccaa	catttccagt	agttcctcct	ttcttaagta	gcattgctgg	agtcaccaac	3960
acagcagcag	ccacagcacc	agtccttgca	acaagcagcc	ctcctaata	catttccaca	4020
tcagtaattc	agtctgaggt	tacagtgcct	actgaagagg	ggattgctgg	agttgccacc	4080
agcacagggtg	tggtaaacttc	agggtggtct	cccataccac	ctgtgtctga	atcaccagta	4140
ctttccagcg	tagtttcaag	tatcacataa	cctgcagttg	tctcaatata	tactacatcc	4200
ccgtcacttc	aagtccccac	atccacatct	gagatcgttg	tttctagtac	agcactgtat	4260
ccttcagtaa	cagtttcagc	aacttcagcc	tctgcagggg	gcagtactgc	tacccaggt	4320
cctaagcctc	cagctgtagt	atctcagcag	gcagcaggca	gcactactgt	gggagccaca	4380
ttaacatcag	tttctaccac	cacttcattc	ccaagcacag	cttcacagct	gtccattcag	4440
cttagcagca	gtacttctac	tctactttta	gctgaaaccg	tggtagttag	cgcacactca	4500
ctagataaga	catctcatag	cagtacaact	ggattggctt	tctccctctc	tgcaccatct	4560
tcttcttct	ctcctggagc	aggagtgtct	agttatatatt	ctcagcctgg	tgggtgcat	4620
cccttggtca	ttccatcagt	gatagcttct	actcctatct	ttccccagc	agcaggacct	4680
acttctacac	ctttattacc	ccaagtacct	agtatcccac	ccttggtaca	gcctgttgcc	4740
aatgtgcctg	ctgtacagca	gacactaatt	catagtgcag	ctcaaccagc	tttgettccc	4800
aaccagcccc	atactcattg	tctgaagta	gattctgata	cacaacccaa	agctcctgga	4860
attgatgaca	taaagactct	agaagaaaag	ctgcgggtct	tgttcagtga	acacagctca	4920
tctggagctc	agcatgcctc	tgtctcactg	gagacctcac	tagtcataga	gagcactgtc	4980
acaggagcca	tcccaactac	tgctgttgca	ccaagcaaac	tcctgacttc	taccacaagt	5040

acttgcttac	caccaaccaa	tttaccacta	ggaacagttg	ctttgccagt	tacaccagt	5100
gtcacacctg	ggcaagtttc	tacccagtc	agcactacta	catcaggagt	gaaacctgga	5160
actgctccct	ccaagccacc	tctaactaag	gctccggtgc	tgccagtggg	tactgaactt	5220
ccagcaggta	ctctaccag	cgagcagctg	ccaccttttc	caggaccttc	tctaaccag	5280
tcccagcaac	ctctagagga	tcttgatgct	caattgagaa	gaacacttag	tccagagatk	5340
atcacagtga	cttctgcggt	tggtcctgtg	tccatggcgg	ctccaacagc	aatcacagaa	5400
gcaggaacac	agcctcagaa	gggtgtttct	caagtcaaag	aaggccctgt	cctagcaact	5460
agttcaggag	ctgggtgtttt	taagatggga	cgatttcagg	tttctgttgc	agcagacggt	5520
gcccagaaaag	agggtaaaaa	taagtcagaa	gatgcaaagt	ctgttcattt	tgaatccagc	5580
acctcagagt	cctcagtgtc	atcaagtagt	agtccagaga	gtaccttggt	gaaaccagag	5640
ccgaatggca	taaccatccc	tggtatctct	tcagatgtgc	cagagagtgc	ccacaaaact	5700
actgcctcag	aggcaaaagtc	agacactggg	cagcctacca	aggttggacg	ttttcagggtg	5760
acaactacag	aaaacaaagt	gggtcgtttc	tctgtatcaa	aaactgagga	caagatcact	5820
gacacaaaaga	aagaaggacc	agtggcatct	cctcctttta	tggatttggg	acaagctgtt	5880
cttctgtctg	tgataccaaa	gaaagagaag	cctgaactgt	cagagccttc	acatctaaat	5940
gggccgtctt	ctgacccgga	ggccgctttt	ttaagtaggg	atgtggatga	tggttccggt	6000
agtccacact	cgccccatca	gctgagctca	aagagccttc	ctagccagaa	tctaagtcaa	6060
agccttagta	attcatttaa	ctcctcttac	atgagtagcg	acaatgagtc	agatatcgaa	6120
gatgaagact	taaagttaga	gctgcgacga	ctacgagata	aacatctcaa	agagattcag	6180
gacctgcaga	gtcgccagaa	gcataaaatt	gaatctttgt	ataccaaact	gggcaagggtg	6240
ccccctgctg	ttattattcc	cccagctgct	cccctttcag	ggagaagacg	acgaccact	6300
aaaagcaaag	gcagcaaatac	tagtcgaagc	agttccttgg	ggaataaaaag	ccccagctt	6360
tcaggttaacc	tgtctgggtca	gagtgcaget	tcagtcttgc	acccccagca	gacctccac	6420
cctcctggca	acatcccaga	gtccggggcag	aatcagctgt	tacagcccct	taagccatct	6480
ccttccagt	acaacctcta	ttcagccttc	accagtgatg	gtgccatttc	agtaccaagc	6540
ctttctgctc	caggtcaagg	aaccgcagc	acaaacactg	ttggggcaac	agtgaacagc	6600
caagccgccc	aagctcagcc	tcctgccatg	acgtccagca	ggaagggcac	attcacagat	6660
gacttgca	agttggtaga	caattggggc	cgagatgcca	tgaatctctc	aggcaggaga	6720
ggaagcaaag	ggcacatgaa	ttatgagggc	cctggaatgg	caaggaagtt	ctctgcacct	6780
gggcaactgt	gcatctccat	gacctogaac	ctgggtggct	ctgcccccat	ctctgcagca	6840
tcagctacct	ctctaggtca	cttcaccaag	tctatgtgcc	ccccacagca	gtatggcttt	6900
ccagctaccc	catttggcgc	tcaatggagt	gggacgggtg	gcccagcacc	acagccactt	6960
ggccagtctc	aacctgtggg	aactgcctcc	ttgcagaatt	tcaacatcag	caatttgcag	7020
aaatccatca	gcaaccccc	aggctccaac	ctgcggacca	cttag		7065

<210> 18
 <211> 2354
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2354)
 <223> Xaa = Any Amino Acid

<400> 18

Met	Ser	Gly	Gly	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1			5				10					15		
Phe	Leu	Ser	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20				25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val
			35				40					45		
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
			50				55					60		
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe
65						70				75				80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu
										90				95
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val
														110
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala

		115					120					125			
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
	130					135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
				165					170					175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
		195				200					205				
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210				215						220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225				230						235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
			245						250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275				280						285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
		290				295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305				310						315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
			325						330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355				360						365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370				375						380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385				390						395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
			405						410					415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465				470						475				</	

Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645					650						655
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
			660					665						670	
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
		675					680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
		690				695						700			
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr
705						710				715					720
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
				725					730						735
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
			740					745						750	
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln
		755					760					765			
Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln
		770				775					780				
Pro	Ser	Val	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly
785					790					795					800
Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile
				805					810						815
Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser
			820					825					830		
Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu
			835				840					845			
Ala	Ser	Ser	Ala	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val
		850				855					860				
Pro	Ser	Gln	Leu	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser
865					870					875					880
Gln	Val	His	Pro	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile
				885					890					895	
Pro	Ala	Asn	Leu	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp
			900					905						910	
Val	Leu	Tyr	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly
			915					920					925		
Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His
						935					940				
Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr	Pro
945					950					955					960
Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu	Leu
				965					970					975	
Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro	Gly
			980					985					990		
Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val	Leu
			995				1000					1005			
Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala
			1010				1015					1020			
Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val
1025					1030					1035					1040
Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu
				1045					1050					1055	
Asn	Val	Pro	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	
			1060				1065						1070		
His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser
			1075				1080					1085			
Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val
			1090			1095					1100				
Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys
1105					1110					1115					1120
Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val

				1125					1130				1135
Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val
			1140						1145				1150
Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu
		1155					1160						1165
Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln
		1170				1175							1180
Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu
1185				1190					1195				1200
Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile
			1205						1210				1215
Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala	Gly	Arg	Arg	Phe
			1220						1225				1230
Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe
		1235					1240						1245
Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro
		1250				1255					1260		
Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu	Ser	Leu	Gln	Gln	Ala
1265				1270									1280
Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly	Pro	Asn	Thr	Ala
			1285						1290				1295
Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	Val	Val	Pro	Pro
			1300					1305					1310
Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Ala	Ala	Ala	Ala	Thr	Ala
		1315					1320						1325
Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile	Ser	Thr	Ser	Val
		1330				1335							1340
Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu	Gly	Ile	Ala	Gly	Val
1345				1350					1355				1360
Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile	Pro	Pro
			1365						1370				1375
Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser	Ser	Ile	Thr	Ile
			1380					1385					1390
Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln	Val	Pro
		1395						1400					1405
Thr	Ser	Glu	Ile	Val	Val	Ser	Thr	Ala	Leu	Tyr	Pro	Ser	Val
		1410				1415				1420			
Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr	Ala	Thr
1425			1430						1435				1440
Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	Gln	Ala	Ala	Gly	Ser
			1445						1450				1455
Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr	Ser	Phe
			1460					1465					1470
Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser	Thr	Ser
		1475				1480							1485
Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	Ala	His	Ser	Leu	Asp
		1490				1495					1500		
Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu	Ser	Ala
1505				1510					1515				1520
Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr	Ile	Ser
			1525						1530				1535
Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	Ala	Ser
			1540					1545					1550
Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	Leu	Leu
		1555					1560						1565
Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	Asn	Val
		1570				1575							1580
Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	Ala	Leu
1585				1590					1595				1600
Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	Val	Asp	Ser	Asp	Thr
			1605						1610				1615
Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	Glu	Lys
			1620					1625					1630

Ser Leu Phe Ser Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val
 1635 1640 1645
 Ser Leu Glu Thr Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile
 1650 1655 1660
 Pro Thr Thr Ala Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser
 1665 1670 1675 1680
 Thr Cys Leu Pro Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro
 1685 1690 1695
 Val Thr Pro Val Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr
 1700 1705 1710
 Thr Thr Ser Gly Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu
 1715 1720 1725
 Thr Lys Ala Pro Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr
 1730 1735 1740
 Leu Pro Ser Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln
 1745 1750 1755 1760
 Ser Gln Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu
 1765 1770 1775
 Ser Pro Glu Xaa Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met
 1780 1785 1790
 Ala Ala Pro Thr Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly
 1795 1800 1805
 Val Ser Gln Val Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala
 1810 1815 1820
 Gly Val Phe Lys Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly
 1825 1830 1835 1840
 Ala Gln Lys Glu Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His
 1845 1850 1855
 Phe Glu Ser Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro
 1860 1865 1870
 Glu Ser Thr Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly
 1875 1880 1885
 Ile Ser Ser Asp Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu
 1890 1895 1900
 Ala Lys Ser Asp Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val
 1905 1910 1915 1920
 Thr Thr Thr Ala Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu
 1925 1930 1935
 Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro
 1940 1945 1950
 Phe Met Asp Leu Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys
 1955 1960 1965
 Glu Lys Pro Glu Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser
 1970 1975 1980
 Asp Pro Glu Ala Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly
 1985 1990 1995 2000
 Ser Pro His Ser Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln
 2005 2010 2015
 Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser
 2020 2025 2030
 Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu
 2035 2040 2045
 Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser
 2050 2055 2060
 Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val
 2065 2070 2075 2080
 Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg
 2085 2090 2095
 Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser
 2100 2105 2110
 Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser
 2115 2120 2125
 Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn

2130	2135	2140
Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser		
2145	2150	2155
Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile		2160
	2165	2170
Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn		2175
	2180	2185
Thr Val Gly Ala Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro		2190
	2195	2200
Ala Met Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys		2205
	2210	2215
Leu Val Asp Asn Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg		2220
	2225	2230
Gly Ser Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys		2235
	2245	2250
Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly		2255
	2260	2265
Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe		2270
	2275	2280
Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro		2285
	2290	2295
Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu		2300
	2305	2310
Gly Gln Phe Gln Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile		2315
	2325	2330
Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg		2335
	2340	2345
Thr Thr		2350

<210> 19
 <211> 6654
 <212> DNA
 <213> Homo sapiens

<400> 19	
atgtctggcg gcgccgcaga gaagcagagc agcactcccg gttccctggt cctctcgccg	60
ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga	120
gccgcggccg ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgccacact	180
atggacaagg acagccgtgg ggccggcccg accactacca ccaactgagca ccgcttcttc	240
cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccg ccttctctt	300
tccctgcccc agcccagcat ccccgcggt gtcccgaga gtgctccacc ggagcccccac	360
cgggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct	420
gccgcccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc	480
agcaaacacc gtcctgtgtc ccagcctagc ctltgtggga gcaaagagga gccgcgcggc	540
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag	600
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt	660
ctcaagtttg acatcgaaat cggcagaggg tcctttaaga cggctctaaa aggtctggac	720
actgaaacca ccgtggaagt cgcttggtgt gaactgcagg atcgaaaatt aacaaagtct	780
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt	840
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgc atgttttggtg	900
actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgaatgaag	960
atcaaagttc taagaagctg gtgcgctcag atccttaaaag gtcttcagtt tcttcatact	1020
cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct	1080
actggctcag tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc	1140
aagagtgtga taggtacccc agagttcatg gcccctgaga tgtatgagga gaaatatgat	1200
gaatccggtg acgtttatgc ttttgggatg tgcattgctg agatggctac atctgaatat	1260
ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag	1320
ccagccagtt ttgacaaaag agcaattcct gaagtgaagg aaattattga aggatgcata	1380
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa	1440
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata	1500
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa	1560
gctattagat tttcttttga tttagagaga gatgtccag aagatgttgc acaagaaatg	1620

gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtacggga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aacccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1980
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	2160
gcccctcctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagtgag	tcagcctcaa	gctccacaag	tcttgccctc	agtatcagct	2280
ggaaaacagc	ttccagtttc	ccagccagta	ccaactatcc	aaggcgaacc	tcagatccca	2340
gttgcgacac	aaccctcggg	tggtccagtc	cactctgggt	ctcatttcct	tccagtggga	2400
cagccgctcc	ctactccctt	gctccctcag	tacctgtct	ctcagattcc	catatcaact	2460
cctcatgtgt	ctacggctca	gacaggtttc	tcateccctc	ccatcacaat	ggcagctggc	2520
attactcagc	ctctgtctac	gttggtctca	tctgtacaaa	cagctgcgat	cccgggggta	2580
tcaactgtgg	ttcctagtca	gcttccaacc	cttctgcagc	ctgtgactca	gctgccaaat	2640
caggttcacc	cacagctcct	acaaccagca	gttcagttca	tggaataacc	agctaaccct	2700
ggacaagctg	ctgaggttcc	actttcctct	ggagatgttc	tgtaccaggg	cttcccacct	2760
cgactgccac	cacagtaccc	aggagattca	aattattgct	cctcttccaa	cgtggcttct	2820
gtttgcatcc	attctacagt	cctawccctt	cccatgccga	cagaagtact	ggctacacct	2880
gggtactttc	ccacagtggg	gcagccttat	gtggaatcaa	atcttttagt	tcctatgggt	2940
gggtgaggag	gacaggttca	agtgtcccag	ccaggaggga	gtttagcaca	agccccact	3000
acatcctccc	agcaagcagt	tttggagagt	actcaggagg	tctctcaggt	tgctcctgca	3060
gagccagttg	cagttagcaca	gccccaaagt	accagccgca	ccactttggc	ttcctctgta	3120
gacagtgcac	attcagatgt	tggtccaggt	atgagtgtat	gcaatgagaa	cgtcccatct	3180
tcagtggaag	ggcatgaagg	aagaactaca	aaacggcatt	accgaaaatc	tgtaaggagt	3240
cgctctcgac	atgaaaaaac	ttcacgcccc	aaattaagaa	ttttgaatgt	ttcaaataaa	3300
ggagaccgag	tagtagaatg	tcaattagag	actcataata	ggaaaatggg	tacattcaaa	3360
tttgacctag	atgggtgacaa	ccccgaggag	atagcaacaa	ttatggtgaa	caatgacttt	3420
attctagcaa	tagagagaga	gtcgtttgtg	gatcaagtgc	gagaaattat	tgaaaaagct	3480
gatgaaatgc	tcagtgagga	tgctcagttg	gaaccagagg	gtgatcaggg	attggagagt	3540
ctacaaggaa	aggatgacta	tggtttttca	ggttctcaga	aattggaagg	agagttcaaa	3600
caaccaattc	ctgcgtcttc	catgccacag	caaataaggca	ttcctaccag	ttctttaact	3660
caagttgttc	attctgcggg	aaggcgggtt	atagtgagtc	ctgtgccaga	aagccgatta	3720
cgagaatcaa	aagttttccc	cagtgaataa	acagatacag	ttgctgcctc	tacagctcag	3780
agccctggaa	tgaacttgtc	tcactctgca	tcctccctta	gtctacaaca	ggccttttct	3840
gaacttagac	gtgccccaat	gacagaagga	cccaayacag	cacctccaaa	cttttagtcat	3900
acaggaccac	catttccagt	agtaacctct	ttcttaagta	gcattgctgg	agtcccaacc	3960
acagcagcag	ccacagcacc	agtccttgca	acaagcagcc	ctcctaataga	catttccaca	4020
tcagtaattc	agtctgaggt	tacagtgcct	actgaagagg	ggattgctgg	agttgccacc	4080
agcacagggt	tggtaaacttc	aggtgggtct	cccataccac	ctgtgtctga	atcaccagta	4140
ctttccagcg	tagtttcaag	tatcacataa	cctgcagttg	tctcaatatc	tactacatcc	4200
ccgtcacttc	aagtcctcac	atccacatct	gagatcgttg	tttctagtac	agcactgtat	4260
ccttggtcaa	cagtttccagc	aacttcagcc	cttgcagggg	gcagtactgc	tacccaggt	4320
cctaagcctc	cagctgtagt	atctcagcag	gcagcaggca	gcactactgt	gggagccaca	4380
ttaacatcag	tttctaccac	cacttcatte	ccaagcacag	cttcacagct	gtccattcag	4440
cttagcagca	gtacttctac	tctactttta	gctgaaaccg	tggtagttag	cgcacactca	4500
ctagataaga	catctcatag	cagtacaact	ggattggctt	tctccctctc	tgcaccatct	4560
tcctcttctt	ctcctggagc	aggagtgtct	agttatatatt	ctcagcctgg	tggtgtgcatt	4620
cctttgggtca	ttccatcagt	gatagcttct	actcctattc	ttccccaagc	agcaggacct	4680
acttctacac	ctttattacc	ccaagtacct	agtatcccac	ccttgggtaca	gcctgttgcc	4740
aatgtgcctg	ctgtacagca	gacactaatt	catagtcagc	ctcaaccagc	tttgcttccc	4800
aaccagcccc	atactcattg	tcttgaagta	gattctgata	cacaacccaa	agctcctgga	4860
attgatgaca	taaagactct	agaagaaaag	ctgcgggtct	tgttcagtga	acacagctca	4920
tctggagctc	agcatgcctc	tgtctcactg	gagacctcac	tagtcataga	gagcactgtc	4980
acaccaggca	tcccaactac	tgctgttgca	ccaagcaaac	tcctgacttc	taccacaagt	5040
acttgcttac	caccaaccaa	tttaccacta	ggaacagttg	ctttgccaagt	tacaccagtg	5100
gtcacacctg	ggcaagtttc	taccccgctc	agcactacta	catcaggagt	gaaacctgga	5160
actgctccct	ccaagccacc	tctaactaag	gctccgggtg	tgccagtggt	tactgaactt	5220
ccagcaggta	ctctacccag	cgagcagctg	ccaccttttc	caggaccttc	tctaaccagg	5280
tcccagcaac	ctctagagga	tcttgatgct	caattgagaa	gaacacttag	tccagagatk	5340
atcacagtga	cttctgcggg	tggtcctgtg	tccatggcgg	ctccaacagc	aatcacagaa	5400

```

gcaggaacac agcctcagaa ggggtgtttct caagtcaaag aaggccctgt cctagcaact 5460
agttcaggag ctgggtgtttt taagatggga cgatttcagg tttctgttgc agcagacggt 5520
gccagaaaag agggtaaaaa taagtcagaa gatgcaaagt ctgttcattt tgaatccagc 5580
acctcagagt cctcagtgct atcaagtagt agtccagaga gtaccttggt gaaaccagag 5640
ccgaatggca taaccatccc tggatatctt tcagatgtgc cagagagtgc ccacaaaact 5700
actgcctcag aggcaaagtc agacactggg cagcctacca aggttggacg ttttcagggtg 5760
acaactacag caaacaaagt gggtcgtttc tctgtatcaa aaactgagga caagatcact 5820
gacacaaaga aagaaggacc agtggcatct cctcctttta tggatttggg acaagctggt 5880
cttcctgctg tgataccaaa gaaagagaag cctgaactgt cagagccttc acatctaaat 5940
gggcccgtct ctgacccgga ggccgctttt ttaagtaggg atgtggatga tggttccggt 6000
agtccacact cgccccatca gctgagctca aagagccttc ctagccagaa tctaagtcaa 6060
agccttagta attcatttaa ctccctctac atgagtagcg acaatgagtc agatatcgaa 6120
gatgaagact taaagttaga gctgcgacga ctacgagata aacatctcaa agagattcag 6180
gacctgcaga gtcgccagaa gcatgaaatt gaatctttgt ataccaaaact gggcaagggtg 6240
ccccctgctg ttattattcc ccagctgct cccctttcag ggagaagacg acgaccact 6300
aaaagcaaag gcagcaaatc tagtcgaagc agttccttgg ggaataaaaag cccccagctt 6360
tcaggtaacc tgtctggtca gagtgcagct tcagtcctgc acccccagca gaccctccac 6420
cctcctggga acatcccaga gtccgggcag aatcagctgt tacagccctt taagccatct 6480
ccctccagtg acaacctcta ttcagccttc accagtgatg gtgccatttc agtaccaagc 6540
ctttctgctc caggtcaagg aataaaagcaa ccatcatcgt ccaaaaacaa taaaatggag 6600
atgttgccat acctgggaca aaagcctggt aaggcggggt gggagactag ctga 6654

```

```

<210> 20
<211> 2217
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(2217)
<223> Xaa = Any Amino Acid

```

```

<400> 20
Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
1 5 10 15
Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Asp
20 25 30
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
35 40 45
Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
50 55 60
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
65 70 75 80
Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
85 90 95
Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
100 105 110
Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
115 120 125
Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly
130 135 140
Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
145 150 155 160
Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
165 170 175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
180 185 190
Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu
195 200 205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
210 215 220

```

Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp	225	230	235	240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys	245	250	255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu	260	265	270	
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu	275	280	285	
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met	290	295	300	
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys	305	310	315	320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln	325	330	335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys	340	345	350	
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp	355	360	365	
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	370	375	380	
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp	385	390	395	400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala	405	410	415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr	420	425	430	
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala	435	440	445	
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys	450	455	460	
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln	465	470	475	480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu	485	490	495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu	500	505	510	
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu	515	520	525	
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly	530	535	540	
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp	545	550	555	560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg	565	570	575	
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Ser	Ser	Leu	Lys	Gln	Gln		580	585	590	
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser	595	600	605	
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser	610	615	620	
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu	625	630	635	640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp	645	650	655	
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln	660	665	670	
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly	675	680	685	
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro	690	695	700	
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr	705	710	715	720
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr				

Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
			740					745							
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln
		755					760					765			
Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln
		770				775						780			
Pro	Ser	Val	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly
785					790					795					800
Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile
				805					810					815	
Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser
			820					825					830		
Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu
		835					840					845			
Ala	Ser	Ser	Ala	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val
		850				855					860				
Pro	Ser	Gln	Leu	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser
865					870					875					880
Gln	Val	His	Pro	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile
				885					890					895	
Pro	Ala	Asn	Leu	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp
			900					905					910		
Val	Leu	Tyr	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly
		915					920					925			
Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His
930						935					940				
Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr	Pro
945					950					955					960
Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu	Leu
				965					970					975	
Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro	Gly
			980					985					990		
Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val	Leu
		995					1000					1005			
Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala
1010						1015					1020				
Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val
1025					1030					1035					1040
Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu
				1045					1050					1055	
Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg
			1060					1065					1070		
His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser
		1075					1080					1085			
Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val
		1090				1095					1100				
Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys
1105					1110					1115				1120	
Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val
				1125					1130					1135	
Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln
			1140					1145					1150		
Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val
		1155					1160					1165			
Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys
		1170				1175						1180			
Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys
1185					1190					1195					1200
Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr
				1205					1210					1215	
Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val
			1220					1225						1230	

Ser Pro Val Pro Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser
 1235 1240 1245
 Glu Ile Thr Asp Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met
 1250 1255 1260
 Asn Leu Ser His Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser
 1265 1270 1275 1280
 Glu Leu Arg Arg Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro
 1285 1290 1295
 Asn Phe Ser His Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu
 1300 1305 1310
 Ser Ser Ile Ala Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val
 1315 1320 1325
 Pro Ala Thr Ser Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln
 1330 1335 1340
 Ser Glu Val Thr Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr
 1345 1350 1355 1360
 Ser Thr Gly Val Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser
 1365 1370 1375
 Glu Ser Pro Val Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala
 1380 1385 1390
 Val Val Ser Ile Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser
 1395 1400 1405
 Thr Ser Glu Ile Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr
 1410 1415 1420
 Val Ser Ala Thr Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly
 1425 1430 1435 1440
 Pro Lys Pro Pro Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr
 1445 1450 1455
 Val Gly Ala Thr Leu Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser
 1460 1465 1470
 Thr Ala Ser Gln Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro
 1475 1480 1485
 Thr Leu Ala Glu Thr Val Val Ser Ala His Ser Leu Asp Lys Thr
 1490 1495 1500
 Ser His Ser Ser Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser
 1505 1510 1515 1520
 Ser Ser Ser Ser Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro
 1525 1530 1535
 Gly Gly Leu His Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro
 1540 1545 1550
 Ile Leu Pro Gln Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln
 1555 1560 1565
 Val Pro Ser Ile Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala
 1570 1575 1580
 Val Gln Gln Thr Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro
 1585 1590 1595 1600
 Asn Gln Pro His Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro
 1605 1610 1615
 Lys Ala Pro Gly Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg
 1620 1625 1630
 Ser Leu Phe Ser Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val
 1635 1640 1645
 Ser Leu Glu Thr Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile
 1650 1655 1660
 Pro Thr Thr Ala Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser
 1665 1670 1675 1680
 Thr Cys Leu Pro Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro
 1685 1690 1695
 Val Thr Pro Val Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr
 1700 1705 1710
 Thr Thr Ser Gly Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu
 1715 1720 1725
 Thr Lys Ala Pro Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr

1730	1735	1740
Leu Pro Ser Glu Gln	Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln	
1745	1750	1755
Ser Gln Gln Pro	Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu	1760
	1765	1770
Ser Pro Glu Xaa Ile Thr Val Thr	Ser Ala Val Gly Pro Val Ser Met	1775
	1780	1785
Ala Ala Pro Thr Ala Ile Thr	Glu Ala Gly Thr Gln Pro Gln Lys Gly	1790
	1795	1800
Val Ser Gln Val Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala		1805
	1810	1815
Gly Val Phe Lys Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly		1820
1825	1830	1835
Ala Gln Lys Glu Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His		1840
	1845	1850
Phe Glu Ser Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro		1855
	1860	1865
Glu Ser Thr Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly		1870
	1875	1880
Ile Ser Ser Asp Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu		1885
	1890	1895
Ala Lys Ser Asp Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val		1900
1905	1910	1915
Thr Thr Thr Ala Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu		1920
	1925	1930
Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro		1935
	1940	1945
Phe Met Asp Leu Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys		1950
	1955	1960
Glu Lys Pro Glu Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser		1965
	1970	1975
Asp Pro Glu Ala Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly		1980
1985	1990	1995
Ser Pro His Ser Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln		2000
	2005	2010
Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser		2015
	2020	2025
Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu		2030
	2035	2040
Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser		2045
	2050	2055
Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val		2060
2065	2070	2075
Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg		2080
	2085	2090
Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser		2095
	2100	2105
Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser		2110
	2115	2120
Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn		2125
	2130	2135
Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser		2140
2145	2150	2155
Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile		2160
	2165	2170
Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Ile Lys Gln Pro Ser		2175
	2180	2185
Ser Ser Lys Asn Asn Lys Met Glu Met Leu Pro Tyr Leu Gly Gln Lys		2190
	2195	2200
Pro Val Lys Ala Gly Trp Glu Thr Ser		2205
	2210	2215

<210> 21

<211> 2865
 <212> DNA
 <213> Homo sapiens

<400> 21

atgtctggcg	gcgccgcaga	gaagcagagc	agcactcccg	gttccctggt	cctctcgccg	60
ccggctcctg	cccccaagaa	tggctccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcggcccg	accactacca	ccactgagca	ccgcttcttc	240
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccg	ccttctctct	300
tccctgcccc	agcccagcat	ccccgcggct	gtcccgcaga	gtgctccacc	ggagccccac	360
cgggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
gccgcccctg	gggaacaggc	cgctgcgggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaaagacc	gcccagtgtc	ccagcctagc	cttgtgggga	gcaaagagga	gccgccgccc	540
gcgagaagtg	gcagcgccgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggtctggac	720
actgaaacca	ccgtggaagt	cgcctgggtg	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttgggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaagggttaa	agtgatgaag	960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gccccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1260
ccttactcgg	agtgccaaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1320
ccagccagtt	ttgacaaaag	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaaggtgat	agccaacaga	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcag	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aacctcagta	atctgtgtta	tctgatggga	cggttgacag	tggtcagggga	1980
tctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatgggg	atatccaccc	tcaagtgtgc	agcaggggaat	acagcagaca	2160
gccccctcct	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagtgag	tcagcctcaa	gctccacaag	tcttgctcca	agtatcagct	2280
ggaaaacagc	ttccagtttc	ccagccagta	ccaactatcc	aaggcgaacc	tcagatccca	2340
gttgcgacac	aaccttcggt	tgttccagtc	cactctgggt	ctcatttcct	tccagtggga	2400
cagccgctcc	ctactccctt	gctccctcag	tacctgtct	ctcagattcc	catatcaact	2460
cctcatgtgt	ctacggctca	gacaggtttc	tcaccccttc	ccatcacaa	ggcagctggc	2520
attactcagc	ctctgtctac	gttggttcca	tctgtacaaa	cagctgcgat	ccccggggta	2580
tcaactgtgg	ttcctagtca	gcttccaacc	cttctgcagc	ctgtgactca	gctgccaaagt	2640
caggttcacc	cacagctcct	acaaccagca	gttcagtc	tgggaatacc	agctaacctt	2700
ggacaagctg	actttcctct	ggagatgttc	tgtagcaggg	tgtagcaggg	cttcccacct	2760
cgactgccac	cacagtagcc	aggagattca	aatattgtct	cctcttccaa	cgtgggttct	2820
gtttgcatcc	attctacagt	cctawccct	ataccttctg	cataa		2865

<210> 22
 <211> 954
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(954)
 <223> Xaa = Any Amino Acid

<400> 22
Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
1 5 10 15
Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
20 25 30
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Asp Ala Val Thr
35 40 45
Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
50 55 60
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
65 70 75 80
Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
85 90 95
Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
100 105 110
Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
115 120 125
Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
130 135 140
Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
145 150 155 160
Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
165 170 175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
180 185 190
Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile Glu Glu Leu Glu
195 200 205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
210 215 220
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
225 230 235 240
Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
245 250 255
Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
260 265 270
Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
275 280 285
Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
290 295 300
Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
305 310 315 320
Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
325 330 335
Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
340 345 350
Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
355 360 365
Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
370 375 380
Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
385 390 395 400
Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
405 410 415
Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
420 425 430
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
435 440 445
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
450 455 460
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
465 470 475 480
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu
485 490 495


```

Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu
500 505 510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu
515 520 525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly
530 535 540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp
545 550 555 560
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg
565 570 575
Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln
580 585 590
Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser
595 600 605
Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser
610 615 620
Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu
625 630 635 640
Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp
645 650 655
Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser Gln
660 665 670
Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Thr Gly
675 680 685
Thr Val Pro Gly His Ile Pro Ser Thr Val Gln Ala Gln Ser Gln Pro
690 695 700
His Gly Val Tyr Pro Pro Ser Ser Val Gln Gln Gly Ile Gln Gln Thr
705 710 715 720
Ala Pro Pro Gln Gln Thr Val Gln Tyr Ser Leu Ser Gln Thr Ser Thr
725 730 735
Ser Ser Glu Ala Thr Thr Ala Gln Pro Val Ser Gln Pro Gln Ala Pro
740 745 750
Gln Val Leu Pro Gln Val Ser Ala Gly Lys Gln Leu Pro Val Ser Gln
755 760 765
Pro Val Pro Thr Ile Gln Gly Glu Pro Gln Ile Pro Val Ala Thr Gln
770 775 780
Pro Ser Val Val Pro Val His Ser Gly Ala His Phe Leu Pro Val Gly
785 790 795 800
Gln Pro Leu Pro Thr Pro Leu Leu Pro Gln Tyr Pro Val Ser Gln Ile
805 810 815
Pro Ile Ser Thr Pro His Val Ser Thr Ala Gln Thr Gly Phe Ser Ser
820 825 830
Leu Pro Ile Thr Met Ala Ala Gly Ile Thr Gln Pro Leu Leu Thr Leu
835 840 845
Ala Ser Ser Ala Thr Thr Ala Ala Ile Pro Gly Val Ser Thr Val Val
850 855 860
Pro Ser Gln Leu Pro Thr Leu Leu Gln Pro Val Thr Gln Leu Pro Ser
865 870 875 880
Gln Val His Pro Gln Leu Leu Gln Pro Ala Val Gln Ser Met Gly Ile
885 890 895
Pro Ala Asn Leu Gly Gln Ala Ala Glu Val Pro Leu Ser Ser Gly Asp
900 905 910
Val Leu Tyr Gln Gly Phe Pro Pro Arg Leu Pro Pro Gln Tyr Pro Gly
915 920 925
Asp Ser Asn Ile Ala Pro Ser Ser Asn Val Ala Ser Val Cys Ile His
930 935 940
Ser Thr Val Leu Xaa Pro Ile Pro Ser Ala
945 950

```

```

<210> 23
<211> 6606
<212> DNA
<213> Homo sapiens

```

<400> 23

atgtctgctg	gcgccgcaga	gaagcagagc	agcactcccg	gttccctggt	cctctcgccg	60
ccggctcctg	cccccaagaa	tggctccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgtgtg	gaccggcagg	accgaggagt	acagggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcggcccg	accactacca	ccactgagca	ccgcttcttc	240
cgccggagcg	tcctctgcga	ctccaatgcc	actgcactgg	agcttcccg	ccttctctt	300
tccttgcctc	agcccgat	ccccgcggct	gtcccgagca	gtgtccacc	ggagccccac	360
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
gccgcccctg	gggaacaggc	cgctcggggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaagacc	gcccagtgct	ccagcctagc	cttgtgggga	gcaaagagga	gccgcccgcg	540
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggtctggac	720
actgaaacca	ccgtggaagt	cgctgtgtgt	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagattttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttgggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaagggttaa	agtgatgaag	960
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattcg	agacctcggt	ctggcaacc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1260
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaaag	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	gaatttaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaaggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgtctag	accggcatac	ctactgtctc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aacctcagat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1980
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatggggt	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	2160
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagttag	tcagcctcaa	gctccacaag	tcttgccctc	agtatcagct	2280
ggaaaacagg	gcttcccacc	tcgactgcca	ccacagtacc	caggagattc	aaatattgct	2340
ccctcttcca	acgtggcttc	tgtttgcatc	cattctacag	tctawcccc	tcccatgccg	2400
acagaagtac	tggctacacc	tgggtacttt	cccacagtgg	tgcagcctta	tgtggaatca	2460
aatcttttag	ttcctatggg	tgggttagga	ggacagggtt	aagtgtccca	gccaggaggg	2520
agttttagcac	aagccccac	tacatcctcc	cagcaagcag	ttttggagag	tactcaggga	2580
gtctctcagc	ttgtctctgc	agagccagtt	gcagtacgac	agccccaaagc	taccagccg	2640
accactttgg	cttctctgtg	agacagtgc	cattcagatg	ttgcttcagg	tatgagtgat	2700
ggcaatgaga	acgtcccac	ttccagtgg	aggcatgaag	gaagaactac	aaaacggcat	2760
taccgaaaat	ctgtaaggag	tcgctctcga	catgaaaaaa	cttcacgccc	aaaattaaga	2820
atthttgaatg	tttcaataaa	aggagaccga	gtagtagaat	gtcaattaga	gactcataat	2880
aggaaaaatgg	ttacattcaa	atthtgacct	gatgggtgaca	accccagagga	gatagcaaca	2940
attatgggtga	acaatgactt	tattctagca	atagagagag	agtcgtttgt	ggatcaagtg	3000
cgagaaatta	ttgaaaaagc	tgatgaaatg	ctcagtagag	atgtcagttg	ggaaccagag	3060
ggtgatcagg	gattggagag	tctacaagga	aaggatgact	atggcttttc	aggttctcag	3120
aaattggaag	gagagttcaa	acaaccaatt	cctgcgtctt	ccatgccaca	gcaaataaggc	3180
attcctacca	gttcttttaac	tcaagttggt	cattctgcgg	gaaggcggtt	tatagttagt	3240
cctgtgccag	aaagccgatt	acgagaatca	aaagtthtcc	ccagtgaat	aacagatata	3300
gttgctgcct	ctacagctca	gagccctgga	atgaacttgt	ctcactctgc	atcatccctt	3360
agtctacaac	aggccttttc	tgaacttaga	cgtgccccaa	tgacagaagg	acccaayaca	3420
gcacctccaa	acttttagtca	tacaggacca	acatttccag	tagtacctcc	tttcttaagt	3480
agcattgctg	gagtcccaac	cacagcagca	gccacagcac	cagtccctgc	aacaagcagc	3540
cctcctaattg	acatttccac	atcagtaatt	cagtctgagg	ttacagtgcc	cactgaagag	3600
gggattgctg	gagttgccac	cagcacaggt	gtggttaact	caggtgggtct	ccccatacca	3660
cctgtgtctg	aatcaccagt	actttccagc	gtagtttcaa	gtatcacaat	acctgcagtt	3720

Met	Ser	Gly	Gly	Ala	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1				5					10					15	
Phe	Leu	Ser	Pro	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20					25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val	Thr
		35				40						45			
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
	50					55					60				
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe	Phe
65					70					75				80	
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro
			85					90						95	
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro
			100					105					110		
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr
		115					120					125			
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
	130					135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
				165				170						175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180					185					190		
Pro	Gln	Glu	Arg	Ser	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu		
		195				200				205					
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210				215						220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245				250						255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275				280						285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
		290				295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
				325					330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355				360						365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370					375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
			405					410						415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
		420						425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435				440						445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485				490						495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu

			500					505					510				
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu		
		515					520					525					
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly		
	530					535					540						
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp		
545					550					555					560		
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg		
			565						570					575			
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln		
			580					585					590				
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser		
	595						600					605					
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser		
	610					615					620						
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu		
625					630					635					640		
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp		
			645						650					655			
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln		
		660					665						670				
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly		
	675						680					685					
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro		
	690					695				700							
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr		
705					710					715					720		
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr		
			725						730					735			
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro		
		740					745					750					
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg		
	755						760					765					
Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn		
	770					775					780						
Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro		
785					790					795					800		
Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro		
			805						810					815			
Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln		
			820					825					830				
Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr		
	835					840					845						
Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val		
	850					855				860							
Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro		
865					870					875					880		
Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser		
			885						890					895			
Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His		
		900						905					910				
Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg		
	915						920					925					
Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val		
	930					935					940						
Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn		
945					950					955					960		
Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu		
			965						970					975			
Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu		
		980						985					990				
Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp		
	995						1000						1005				

Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly
 2020 2025 2030
 Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln
 2035 2040 2045
 Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr
 2050 2055 2060
 Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala
 2065 2070 2075 2080
 Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu
 2085 2090 2095
 Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile
 2100 2105 2110
 Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser
 2115 2120 2125
 Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln
 2130 2135 2140
 Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly
 2145 2150 2155 2160
 Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala
 2165 2170 2175
 Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn
 2180 2185 2190
 Pro Pro Gly Ser Asn Leu Arg Thr Thr
 2195 2200

<210> 25
 <211> 6195
 <212> DNA
 <213> Homo sapiens

<400> 25
 atgtctggtc ggcgcgcaga gaagcagagc agcactcccg gttccctggt cctctcgccg 60
 ccggctcctg cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga 120
 gccgcggccg ccgacgtgt gaccggcagg accgaggagt acaggcgccg ccgccacact 180
 atggacaagg acagccgtgg ggcggccgag accactacca ccaactgagca ccgcttcttc 240
 cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccg ccttccctctt 300
 tcctgcccc agcccagcat ccccgcggt gtcccgaga gtgtccacc ggagccccac 360
 cggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct 420
 gccgccccg ggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 480
 agcaaagacc gccagtgct ccagcctagc cttgtgggga gcaaagagga gccgcgcgcg 540
 gcgagaagt gcagcggcg cggcagcgcc aaggagccac aggaggaacg gagccagcag 600
 caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 660
 ctcaagttt acatcgaaat cggcagaggc tcctttaaga cgggtctacaa aggtctggac 720
 actgaaacca ccgtggaagt cgcctggtgt gaactgcagg atcgaaaatt acaaagtct 780
 gagagcaga gatataaaga agaagctgaa atgttaaaag gtcttcagca tcccaatt 840
 gttagatttt atgattctg ggaatccaca gtaaaaggaa agaagtgc atgttttggtg 900
 actgaactta tgacgtctg aacacttaaa acgtatctga aaaggtttta agtgatgaag 960
 atcaaagttc taagaagctg gtgcccgtcag atccttaaag gtcttcagtt tcttcatact 1020
 cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 1080
 actggctcag tcaagattgg agacctcggt ctggcaacct tgaagcgggc ttcttttgcc 1140
 aagagtgtga taggtacccc agagtccatg gccctgaga tgtatgagga gaaatatgat 1200
 gaatccgttg acgtttatgc ttttgggatg tgcattgctt agatggctac atctgaatat 1260
 ccttactcgg agtgccaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1320
 ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1380
 cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1440
 gaggaacac gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1500
 aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1560
 gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1620
 gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1680
 agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1740
 aaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1800
 acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccattca 1860
 gcttcagttt ctacacaagt agaacctgaa gaacctgagg catgataaca tcaacaata 1920

cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cgggtgacag	tggtcagggg	1980
tctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagtttcata	tgggtcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatggggt	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	2160
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagtgag	tcagcctcaa	gctccacaag	tcttgccctca	agtatcagct	2280
ggaaaacagg	gcttcccacc	tcgactgcca	ccacagtacc	caggagattc	aaatattgct	2340
ccctcttcca	acgtggcttc	tgtttgcatc	cattctacag	tcctawcccc	tcccatgccc	2400
acagaagtac	tggctacacc	tgggtacttt	cccacagtgg	tgcagcctta	tgtggaatca	2460
aatcttttag	ttcctatggg	tggtgtagga	ggacaggttc	aagtgtccca	gccaggaggg	2520
agtttagcac	aagccccac	tacatcctcc	cagcaagcag	ttttggagag	tactcaggga	2580
gtctctcagg	ttgctcctgc	agagccagtt	gcagtagcac	agccccagc	taccagccc	2640
accactttgg	cttctctgt	agacagtga	cattcagatg	ttgcttcagg	tatgagtgat	2700
ggcaatgaga	acgtcccacc	ttccagtggg	aggcatgaag	gaagaactac	aaaacggcat	2760
taccgaaaat	ctgtaaggag	tcgctctcga	catgaaaaaa	cttcacgccc	aaaattaaga	2820
atthttgaatg	tttcaaataa	aggagaccga	gtagtagaat	gtcaattaga	gactcataat	2880
aggaaaatgg	ttacattcaa	atthtgaccta	gatggtgaca	accccagagg	gatagcaaca	2940
attatggtga	acaatgactt	tattctagca	atagagagag	agtcgtttgt	ggatcaagtg	3000
cgagaaaata	ttgaaaagtc	tgatgaaatg	ctcagtgagg	atgtcagtg	ggaaccagag	3060
ggtgatcagg	gattggagag	tctacaaggg	aaggatgact	atggcttttc	aggttctcag	3120
aaattggaag	gagagttcaa	acaaccaatt	cctgcgtctt	ccatgccaca	gcaaataggc	3180
attcctacca	gttctttaac	tcaagttggt	cattctgcgg	gaaggcgggt	tatagtgagt	3240
cctgtgcccag	aaagccgatt	acgagaatca	aaagttttcc	ccagtgaat	aacagataca	3300
gttgctgcct	ctacagctca	gagccctgga	atgaacttgt	ctcactctgc	atcatccctt	3360
agtcataaac	aggccttttc	tgaacttaga	cgtgcccaca	tgacagaagg	acccaayaca	3420
gcacctccaa	acttttagtc	tacaggacca	acatttccag	tagtacctcc	tttcttaagt	3480
agcattgctg	gagtcaccaac	cacagcagca	gccacagcac	cagtcctctc	aacaagcagc	3540
cctcctaattg	acatttccac	atcagtaatt	cagtctgagg	ttacagtgcc	cactgaagag	3600
gggattgctg	gagttgccac	cagcacagg	gtggtaactt	caggtggtct	ccccatacca	3660
cctgtgtctg	aatcaccagt	actttccagc	gtagtttcaa	gtatcacaat	acctgcagtt	3720
gtctcaatat	ctactacatc	cccgtcactt	caagtcccca	catccacatc	tgagatcggt	3780
gtttctagta	cagcactgta	tccttcagta	acagtttcag	caacttcagc	ctctgcagg	3840
ggcagtactg	ctacccccagg	tcctaagcct	ccagctgtag	tatctcagca	ggcagcaggc	3900
agcactactg	tgggagccac	attaacatca	gtttctacca	ccacttcatt	cccaagcaca	3960
gcttcacagc	tgtccattca	gcttagcagc	agtacttcta	ctcctacttt	agctgaaacc	4020
gtggtagtta	gcgcacactc	actagataag	acatctcata	gcagtacaac	tggattggct	4080
ttctccctct	ctgcaccatc	ttctctcttc	tctcctggag	caggagtgtc	tagttatatt	4140
tctcagcctg	gtggctgtga	tcctttggtc	attcctacag	tgatagcttc	tactcctatt	4200
cttccccaaag	cagcaggacc	tactttctaca	cttttattac	cccaagtacc	tagtatccca	4260
cccttggtac	agcctgttgc	caatgtgctt	gctgtacagc	agacactaat	tcatagttag	4320
cctcaaccag	ctttgcttcc	caaccagccc	catactcatt	gtcctgaagt	agattctgat	4380
acacaaccca	aagctcctgg	aattgatgac	ataaagactc	tagaagaaaa	gctgcgggtc	4440
ctgttcagtg	aacacagctc	atctggagct	cagcatgect	ctgtctcact	ggagacctca	4500
ctagtcatag	agagcactgt	cacaccagtc	acccaacta	ctgctgttgc	accaagcaaa	4560
ctcctgactt	ctaccacaag	tacttgctta	ccaccaacca	atttaccact	aggaacagtt	4620
gctttgccag	ttacaccagt	ggtcacacct	gggcaagttt	ctaccccagt	cagcactact	4680
acatcaggag	tgaacacctg	aactgctccc	tccaagccac	ctctaactaa	ggctccgggtg	4740
ctgccagtg	gtactgaact	tccagcaggt	actctaccca	gcgagcagct	gccacctttt	4800
ccaggacctt	ctctaaccac	gtcccagcaa	cctctagagg	atcttgatgc	tcaattgaga	4860
agaacactta	gtccagagat	kacacagtg	acttctgcgg	ttggtcctgt	gtccatggcg	4920
gtcccaacag	caatcacaga	agcaggaaca	cagcctcaga	aggggtgttc	tcaagtcaaa	4980
gaaggccctg	tcctagcaac	tagttcagga	gctggtgttt	ttaagatggg	acgatttcag	5040
gtttctgttg	cagcagacgg	tgcccagaaa	gagggtaaaa	ataagttaga	agatgcaaa	5100
tctgttcatt	ttgaatccag	cacctcagag	tcctcagtg	tatcaagtag	tagtccagag	5160
agtaccttgg	tgaacaccga	gccgaatggc	ataaccatcc	ctggatatctc	ttcagatgtg	5220
ccagagagtg	cccacaaaac	tactgcctca	gaggcaaatg	cagacactgg	gcagcctacc	5280
aagggtggac	gttttcagg	gacaactaca	gaaaacaaag	tgggtcgttt	ctctgtatca	5340
aaaactgagg	acaagatcac	tgacacaaag	aaagaaggac	cagtggcatc	tcctcctttt	5400
atggatttgg	aacaagctgt	tcttctctgt	gtgataccaa	agaaagagaa	gctgaactg	5460
tcagagcctt	cacatctaaa	tgggcccgtc	tctgaccgg	aggccgcttt	tttaagtagg	5520
gatgtggatg	atggttccgg	tagtccacac	tcgccccatc	agctgagctc	aaagagcctt	5580
cctagccaga	atctaagtc	aagccttagt	aattcattta	actcctctta	catgagtagc	5640
gacaatgagt	cagatatcga	agatgaagac	ttaaagttag	agctgcgacg	actacagagat	5700

aaacatctca	aagagattca	ggacctgcag	agtcgccaga	agcatgaaat	tgaatctttg	5760
tataccaaac	tgggcaaggt	gccccctgct	gttattattc	ccccagctgc	tccccctttca	5820
gggagaagac	gacgaccac	taaaagcaaa	ggcagcaaat	ctagtccaag	cagttccttg	5880
gggaataaaa	gccccagct	ttcaggtaac	ctgtctggtc	agagtgcagc	ttcagtcctg	5940
cacccccagc	agaccctcca	ccctcctggc	aacatcccag	agtccgggca	gaatcagctg	6000
ttacagcccc	ttaagccatc	tcctccagtc	gacaacctct	attcagcctt	caccagtgat	6060
ggtgccattt	cagtaccaag	cctttctgct	ccaggtcaag	gaataaagca	accatcatcg	6120
tccaaaaaca	ataaaatgga	gatgttgcca	tacctgggac	aaaagcctgt	taaggcgggt	6180
tgggagacta	gctga					6195

<210> 26
 <211> 2064
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2064)
 <223> Xaa = Any Amino Acid

<400> 26

Met	Ser	Gly	Gly	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1			5					10					15	
Phe	Leu	Ser	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20				25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val
		35					40					45		Thr
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys
	50					55					60			Asp
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe
65				70						75				80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu
				85					90				95	Pro
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val
		100						105					110	Pro
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala
		115					120					125		Thr
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro
	130					135					140			Gly
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser
145				150					155					Thr
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys
			165						170					Glu
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys
			180					185				190		Glu
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu
		195				200						205		Glu
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe
	210				215						220			Asp
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu
225				230						235				Asp
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg
			245						250					Lys
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met
		260						265					270	Leu
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp
		275					280					285		Glu
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu
	290					295					300			Met
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met
305					310					315				Lys

Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln	325	330	335
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys	340	345	350
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp	355	360	365
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	370	375	380
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp	385	390	400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala	405	410	415
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr	420	425	430
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala	435	440	445
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys	450	455	460
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln	465	470	475
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu	485	490	495
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu	500	505	510
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu	515	520	525
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly	530	535	540
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp	545	550	555
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg	565	570	575
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln	580	585	590
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser	595	600	605
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser	610	615	620
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu	625	630	635
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp	645	650	655
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln	660	665	670
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly	675	680	685
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro	690	695	700
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr	705	710	715
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	725	730	735
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	740	745	750
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg	755	760	765
Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	770	775	780
Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	785	790	795
Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	805	810	815
Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln			

Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	1330	1335	1340
Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	1345	1350	1355
Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	1365	1370	1375
Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	1380	1385	1390
Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	1395	1400	1405
Ser	Thr	Pro	Leu	Leu	Pro	Gln	Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	1410	1415	1420
Pro	Val	Ala	Asn	Val	Pro	Ala	Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	1425	1430	1435
Pro	Gln	Pro	Ala	Leu	Leu	Pro	Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	1445	1450	1455
Val	Asp	Ser	Asp	Thr	Gln	Pro	Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	1460	1465	1470
Thr	Leu	Glu	Gly	Lys	Leu	Arg	Ser	Leu	Phe	Ser	Glu	His	Ser	Ser	Ser	1475	1480	1485
Gly	Ala	Gln	His	Ala	Ser	Val	Ser	Leu	Glu	Thr	Ser	Leu	Val	Ile	Glu	1490	1495	1500
Ser	Thr	Val	Thr	Pro	Gly	Ile	Pro	Thr	Thr	Ala	Val	Ala	Pro	Ser	Lys	1505	1510	1515
Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	Pro	Thr	Asn	Leu	Pro	1525	1530	1535
Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr	Pro	Gly	Gln	1540	1545	1550
Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys	Pro	Gly	Thr	1555	1560	1565
Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu	Pro	Val	Gly	1570	1575	1580
Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	Gln	Leu	Pro	Pro	Phe	1585	1590	1595
Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro	Leu	Glu	Asp	Leu	Asp	1605	1610	1615
Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr	Val	Thr	Ser	1620	1625	1630
Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile	Thr	Glu	Ala	1635	1640	1645
Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu	Gly	Pro	Val	1650	1655	1660
Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly	Arg	Phe	Gln	1665	1670	1675
Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys	Asn	Lys	Ser	1685	1690	1695
Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser	Thr	Ser	Glu	Ser	Ser	1700	1705	1710
Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu	Val	Lys	Pro	Glu	Pro	1715	1720	1725
Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	Val	Pro	Glu	Ser	Ala	1730	1735	1740
His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	Thr	Gly	Gln	Pro	Thr	1745	1750	1755
Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Thr	Ala	Asn	Lys	Val	Gly	Arg	1765	1770	1775
Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr	Asp	Thr	Lys	Lys	Glu	1780	1785	1790
Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu	Glu	Gln	Ala	Val	Leu	1795	1800	1805
Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu	Leu	Ser	Glu	Pro	Ser	1810	1815	1820
His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala	Ala	Phe	Leu	Ser	Arg			

1825		1830		1835		1840
Asp Val	Asp Asp Gly Ser Gly Ser Pro His Ser Pro His Gln Leu Ser					
	1845		1850		1855	
Ser Lys	Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser Leu Ser Asn Ser					
	1860		1865		1870	
Phe Asn	Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp					
	1875		1880		1885	
Glu Asp	Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys					
	1890		1895		1900	
Glu Ile	Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu					
1905		1910		1915		1920
Tyr Thr	Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala					
	1925		1930		1935	
Ala Pro	Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser					
	1940		1945		1950	
Lys Ser	Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser					
	1955		1960		1965	
Gly Asn	Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln					
	1970		1975		1980	
Thr Leu	His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu					
1985		1990		1995		2000
Leu Gln	Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala					
	2005		2010		2015	
Phe Thr	Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly					
	2020		2025		2030	
Gln Gly	Ile Lys Gln Pro Ser Ser Lys Asn Asn Lys Met Glu Met					
	2035		2040		2045	
Leu Pro	Tyr Leu Gly Gln Lys Pro Val Lys Ala Gly Trp Glu Thr Ser					
	2050		2055		2060	

<210> 27
 <211> 2406
 <212> DNA
 <213> Homo sapiens

<400> 27	
atgtctggcg	gcgccgcaga gaagcagagc agcactcccg gttccctggt cctctcgccg 60
ccggctcctg	cccccaagaa tggctccagc tccgattcct ccgtggggga gaaactggga 120
gccgcggccg	ccgacgctgt gaccggcagg accgaggagt acaggcgccg ccgccacact 180
atggacaagg	acagccgtgg ggccggcccg accactacca ccaactgagca ccgcttcttc 240
cgccggagcg	tcattctgca ctccaatgcc actgcactgg agcttcccgg ccttcctctt 300
tccttgcccc	agcccagcat ccccgcggt gtcccgaga gtgctccacc ggagccccac 360
cgggaaagaga	ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct 420
gccgcccctg	gggaacaggc cgtgcggggc cctgccccct cgactgtccc cagcagtacc 480
agcaaaagacc	gcccattgtc ccagcctagc cttgtgggga gcaaagagga gcccgcccg 540
gcgagaagtg	gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 600
caggatgata	tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 660
ctcaagtttg	acatcgaaat cggcagaggc tcctttaaga cggctacaa aggtctggac 720
actgaaacca	ccgtggaagt cgcctggtgt gaactgcagg atcgaaaatt aacaaagtct 780
gagaggcaga	gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 840
gttagatttt	atgattcctg ggaatccaca gtaaaaggaa agaagtgc atgttttggtg 900
actgaactta	tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 960
atcaaagttc	taagaagctg gtgccgtcag atccttaaaag gtcttcagtt tcttcatact 1020
cgaaactccac	ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 1080
actggctcag	tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc 1140
aagagtgtga	taggtacccc agagttcatg gcccttgaga tgtatgagga gaaatatgat 1200
gaatccgttg	acgtttatgc ttttgggatg tgcattgctt agatggctac atctgaatat 1260
ccttactcgg	agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1320
ccagccagtt	ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1380
cgacaaaaca	aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1440
gaggaaaacag	gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1500
aaattatggc	tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1560
gctatttgat	ttccatttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1620

```

gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1680
agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1740
aaaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1800
acaggaatca agcagctccc ttctgctagc accggcatat ctactgcttc taccacttca 1860
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1920
cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1980
tcctctgtct tcacagaatc tcgagtgagc agccaacaga cagtttcata tggttcccaa 2040
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 2100
cagtctcagc cccatggggg atateccacc tcaagtgtgc agcaggggat acagcagaca 2160
gcccctcttc aacagacagt gcagtattca ctttcacaga catcaacctc cagtgaggcc 2220
actactgcac agccagttag tcagcctcaa gctccacaag tcttgccctc agtatcagct 2280
ggaaaacagg gcttcccacc tcgactgcc aacacagtacc caggagattc aaatattgct 2340
ccctcttcca acgtgggttc tgtttgcac cattctacag tcctawcccc tataccttct 2400
gcataa

```

```

<210> 28
<211> 801
<212> PRT
<213> Homo sapiens

```

```

<220>
<221> VARIANT
<222> (1)...(801)
<223> Xaa = Any Amino Acid

```

```

<400> 28
Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
 1          5          10          15
Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20          25          30
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Asp Ala Val Thr
 35          40          45
Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50          55          60
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65          70          75          80
Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85          90          95
Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100         105         110
Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115         120         125
Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130         135         140
Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145         150         155         160
Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
 165         170         175
Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
 180         185         190
Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195         200         205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210         215         220
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225         230         235         240
Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245         250         255
Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260         265         270
Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275         280         285
Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met

```

	290					295					300					
Thr 305	Ser	Gly	Thr	Leu	Lys 310	Thr	Tyr	Leu	Lys	Arg 315	Phe	Lys	Val	Met	Lys 320	
Ile	Lys	Val	Leu	Arg 325	Ser	Trp	Cys	Arg	Gln 330	Ile	Leu	Lys	Gly	Leu	Gln 335	
Phe	Leu	His	Thr 340	Arg	Thr	Pro	Pro	Ile 345	Ile	His	Arg	Asp	Leu	Lys	Cys	
Asp	Asn	Ile 355	Phe	Ile	Thr	Gly 360	Pro	Thr	Gly	Ser	Val	Lys 365	Ile	Gly	Asp	
Leu	Gly 370	Leu	Ala	Thr	Leu	Lys 375	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	
Gly 385	Thr	Pro	Glu	Phe	Met 390	Ala	Pro	Glu	Met	Tyr 395	Glu	Glu	Lys	Tyr	Asp 400	
Glu	Ser	Val	Asp	Val 405	Tyr	Ala	Phe	Gly	Met 410	Cys	Met	Leu	Glu	Met	Ala 415	
Thr	Ser	Glu	Tyr 420	Pro	Tyr	Ser	Glu	Cys 425	Gln	Asn	Ala	Ala	Gln 430	Ile	Tyr	
Arg	Arg	Val 435	Thr	Ser	Gly	Val	Lys 440	Pro	Ala	Ser	Phe	Asp 445	Lys	Val	Ala	
Ile	Pro	Glu 450	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys	
Asp 465	Glu	Arg	Tyr	Ser	Ile 470	Lys	Asp	Leu	Leu	Asn 475	His	Ala	Phe	Phe	Gln 480	
Glu	Glu	Thr	Gly	Val 485	Arg	Val	Glu	Leu	Ala 490	Glu	Glu	Asp	Asp	Gly	Glu 495	
Lys	Ile	Ala	Ile 500	Lys	Leu	Trp	Leu	Arg 505	Ile	Glu	Asp	Ile	Lys 510	Lys	Leu	
Lys	Gly	Lys 515	Tyr	Lys	Asp	Asn	Glu 520	Ala	Ile	Glu	Phe	Ser 525	Phe	Asp	Leu	
Glu	Arg	Asp 530	Val	Pro	Glu	Asp 535	Val	Ala	Gln	Glu	Met 540	Val	Glu	Ser	Gly	
Tyr 545	Val	Cys	Glu	Gly	Asp 550	His	Lys	Thr	Met	Ala 555	Lys	Ala	Ile	Lys	Asp 560	
Arg	Val	Ser	Leu	Ile 565	Lys	Arg	Lys	Arg	Glu 570	Gln	Arg	Gln	Leu	Val	Arg 575	
Glu	Glu	Gln	Glu 580	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys 590	Gln	Gln	
Val	Glu	Gln 595	Ser	Ser	Ala	Ser	Gln 600	Thr	Gly	Ile	Lys	Gln 605	Leu	Pro	Ser	
Ala	Ser	Thr 610	Gly	Ile	Pro	Thr 615	Ala	Ser	Thr	Thr	Ser 620	Ala	Ser	Val	Ser	
Thr 625	Gln	Val	Glu	Pro	Glu 630	Glu	Pro	Glu	Ala	Asp 635	Gln	His	Gln	Gln	Leu 640	
Gln	Tyr	Gln	Gln 645	Pro	Ser	Ile	Ser	Val	Leu 650	Ser	Asp	Gly	Thr	Val	Asp 655	
Ser	Gly	Gln	Gly 660	Ser	Ser	Val	Phe	Thr 665	Glu	Ser	Arg	Val	Ser	Ser	Gln	
Gln	Thr	Val	Ser 675	Tyr	Gly	Ser	Gln 680	His	Glu	Gln	Ala 685	His	Ser	Thr	Gly	
Thr	Val	Pro	Gly 690	His	Ile	Pro 695	Ser	Thr	Val	Gln	Ala 700	Gln	Ser	Gln	Pro	
His 705	Gly	Val	Tyr	Pro	Pro 710	Ser	Ser	Val	Gln	Gln 715	Gly	Ile	Gln	Gln	Thr 720	
Ala	Pro	Pro	Gln 725	Gln	Thr	Val	Gln	Tyr	Ser 730	Leu	Ser	Gln	Thr	Ser	Thr 735	
Ser	Ser	Glu	Ala 740	Thr	Thr	Ala	Gln	Pro	Val 745	Ser	Gln	Pro	Gln	Ala	Pro	
Gln	Val	Leu	Pro 755	Gln	Val	Ser	Ala 760	Gly	Lys	Gln	Gly	Phe 765	Pro	Pro	Arg	
Leu	Pro	Pro	Gln 770	Tyr	Pro	Gly 775	Asp	Ser	Asn	Ile	Ala 780	Pro	Ser	Ser	Asn	
Val 785	Ala	Ser	Val 790	Cys	Ile	His	Ser	Thr	Val	Leu 795	Xaa	Pro	Ile	Pro	Ser 800	

Ala

<210> 29
<211> 6327
<212> DNA
<213> Homo sapiens

<400> 29

atgtctggcg	gcgccgcaga	gaagcagagc	agcactcccg	gttccctggt	cctctcgccg	60
ccggctcctg	cccccaagaa	tggctccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcgggccgc	accactacca	ccactgagca	ccgcttcttc	240
cgccggagcg	tcatctgcga	ctccaatgcc	actgcactgg	agcttcccgg	ccttcctctt	300
tccttgcccc	agcccagcat	ccccgcgggt	gtcccgcgaga	gtgctccacc	ggagccccac	360
cgggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
gccgcccctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaagacc	gcccagtgtc	ccagcctagc	cttggtgggga	gcaaagagga	gccgcccggc	540
gcgagaagtg	gcagcgggcg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	600
caggatgata	tcaagagctg	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcccttaaga	cggctacaaa	aggtctggac	720
actgaaacca	ccgtggaagt	cgccgtggtg	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	960
atcaaagttc	taagaagctg	gtgcccgtcag	atccttaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcatgcttg	agatggctac	atctgaatat	1260
ccttactcgg	agtgccaaaa	tgtgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1320
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatggtgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1980
tcctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacag	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccattgggt	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	2160
gcccctcctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagttag	tcagcctcaa	gtccacaag	tcttgctca	agtatcagct	2280
ggaaaacaga	gtactcaggg	agtctctcag	gttgctcctg	cagagccagt	tgtagtagca	2340
cagccccaag	ctaccagccc	gaccaacttg	gcttccctctg	tagacagtgc	acattcagat	2400
gttgcttcag	gtatgagtga	tggcaatgag	aacgtcccat	cttccagtgg	aaggcatgaa	2460
ggaagaacta	caaaacggca	ttaccgaaaa	tctgtaagga	gtcgctctcg	acatgaaaaa	2520
acttcacgcc	caaaattaag	aattttgaat	gtttcaaaata	aaggagaccg	agtagtagaa	2580
tgtcaattag	agactcataa	taggaaaaatg	gttacattca	aatttgacct	agatggtgac	2640
aaccccaggg	agatagcaac	aattatggtg	aacaatgact	ttattctagc	aatagagaga	2700
gagtcgtttg	tggatcaagt	gcgagaaaatt	attgaaaaag	ctgatgaaat	gctcagttag	2760
gatgtcagtg	tggaaaccaga	gggtgatcag	ggattggaga	gtctacaagg	aaaggatgac	2820
tatggctttt	caggttctca	gaaattggaa	ggagagttca	aacaaccaat	tcctgcgtct	2880
tccatgccac	agcaaatagg	cattcctacc	agttctttta	ctcaagttgt	tcattctgcg	2940
ggaaggcggt	ttatagttag	tcctgtgcc	gaaagccgat	tacgagaatc	aaaagttttc	3000
cccagtga	taacagatac	agttgctgcc	tctacagctc	agagccctgg	aatgaacttg	3060
tctcactctg	catcatccct	tagtctacaa	caggcctttt	ctgaacttag	acgtgcccaa	3120
atgacagaag	gacccaayac	agcacctcca	aacttttagtc	atacaggacc	aacattttcca	3180
gtagtccctc	ctttcttggg	tagcattgct	ggagtcccaa	ccacagcagc	agccacagca	3240

ccagtccttg	caacaagcag	ccctccta	gacatttcca	catcagta	tcagtcctg	3300
gttacagtgc	ccactgaaga	ggggattg	ggagttgcca	ccagcacagg	tgtggtaact	3360
tcaggtgggc	tccccatacc	acctgtgt	gaatcaccag	tactttccag	cgtagtttca	3420
agtatcacia	tacctgcagt	tgtctcaata	tctactacat	ccccgtcact	tcaagtcacc	3480
acatccacat	ctgagatcgt	tgtttctagt	acagcactgt	atccttcagt	aacagtttca	3540
gcaacttcag	cctctgcagg	gggcagtag	gctaccccag	gtcctaagcc	tccagctgta	3600
gtatctcagc	aggcagcagg	cagcactact	gtgggagcca	cattaacatc	agttttctacc	3660
accacttcat	tcccaagcac	agcttcacag	ctgtccattc	agcttagcag	cagtacttct	3720
actcctactt	tagctgaaac	cgtggtagtt	agcgcacact	cactagataa	gacatctcat	3780
agcagtacaa	ctggattggc	tttctccctc	tctgcaccat	cttctcttcc	ctctcctgga	3840
gcaggagtg	ctagttatat	ttctcagcct	ggtagggctg	atcctttggt	cattccatca	3900
gtgatagctt	ctactcctat	ttttcccaaa	gcagcaggac	ctactttctac	acctttatta	3960
ccccagtag	ctagtatccc	acccttggtg	cagcctgttg	ccaatgtgcc	tgtgttacag	4020
cagacactaa	ttcatagtca	gcctcaacca	gctttgcttc	ccaaccagcc	ccatactcat	4080
tgtcctgaag	tagattctga	tacacaaccc	aaagctcctg	gaattgatga	cataaagact	4140
ctagaagaaa	agctgcggtc	tctgttcagt	gaacacagct	catctggagc	tcagcatgcc	4200
tctgtctcac	tggagacctc	actagtcata	gagagcactg	tcacaccagg	catcccaact	4260
actgctgttg	caccaagcaa	actcctgact	tctaccacaa	gtacttgctt	accaccaacc	4320
aattttaccac	taggaacagt	tgttttgcca	gttacaccag	tggtcacacc	tggtgcaagt	4380
tctaccaccag	tacgactact	tacatcagga	gtgaaacctg	gaactgctcc	ctccaagcca	4440
cctctaacta	aggctccggt	gctgccagtg	gttactgaac	ttccagcagg	tactctaccc	4500
agcgagcagc	tgccaccttt	tccaggacct	tctctaacc	agtcccagca	acctctagag	4560
gatcttgatg	ctcaattgag	aagaacactt	agtccagaga	tkatcacagt	gacttctgcg	4620
gttgggtcctg	tgtccatggc	ggctccaaca	gcaatcacag	aagcaggaa	acagcctcag	4680
aagggtgttt	ctcaagtcaa	agaaggccct	gtcctagcaa	ctagttcagg	agctgggtgt	4740
tttaagatgg	gacgatttca	ggtttctgtt	gtgcagacag	gtgccagaa	agagggtaaa	4800
aataagtccag	aagatgcaaa	gtctgttcat	tttgaatcca	gcacctcaga	gtcctcagtg	4860
ctatcaagta	gtagtccaga	gagtaccttg	gtgaaaccag	agccgaatgg	cataaccatc	4920
cctggtatct	cttcagatgt	gccagagagt	gcccacaaaa	ctactgcctc	agaggcaaa	4980
tcagacactg	ggcagcctac	caagggttga	cgttttcagg	tgacaactac	agcaaacaaa	5040
gtgggtcgtt	tctctgtatc	aaaaactgag	gacaagatca	ctgacacaaa	gaaagaagga	5100
ccagttggcat	ctcctccttt	tatggatttg	gaacaagctg	ttcttcctgc	tgtgatacca	5160
aagaaaagaga	agcctgaact	gtcagagcct	tcacatctaa	atgggcccgtc	ttctgacctg	5220
gaggccgctt	ttttaagtag	ggatgtggat	gatggttccg	gtagtccaca	ctcgccccat	5280
cagctgagct	caaagagcct	tcttagccag	aatctaagtc	aaagccttag	taattcattt	5340
aactcctctt	acatgagtag	cgacaatgag	tcagatatcg	aagatgaaga	cttaaagtta	5400
gagctgcgac	gactacgaga	taaacatctc	aaagagattc	aggacctgca	gagtcgccag	5460
aagcatgaaa	ttgaatcttt	gtataccaaa	ctgggcaagg	tgccccctgc	tgttattatt	5520
ccccagctg	ctcccctttc	agggagaaga	cgacgacca	ctaaaagcaa	aggcagcaaa	5580
tctagtgcga	gcagttcctt	ggggaataaa	agcccccagc	tttcaggtaa	cctgtctggt	5640
cagagtgcag	cttcagttct	gcacccccag	cagacctctc	accctcctgg	caacatccca	5700
gagtcggggc	agaatcagct	gttacagccc	cttaagccat	ctccctccag	tgacaacctc	5760
tattcagcct	tcaccagtga	tgggtgccatt	tcagtaccaa	gcctttctgc	tccaggtcaa	5820
ggaaccagca	gcacaaacac	tgttggggca	acagtgaaca	gccaagccgc	ccaagctcag	5880
cctcctgcca	tgacgtccag	caggaagggc	acattcacag	atgacttgca	caagttggta	5940
gacaattggg	cccagatgac	catgaatctc	tcaggcagga	gaggaagcaa	agggcacatg	6000
aattatgagg	gccctggaat	ggcaaggga	ttctctgcac	ctgggcaact	gtgcatctcc	6060
atgacctcga	acctgggtgg	ctctgcccc	atctctgcag	catcagctac	ctctctaggt	6120
cacttcacca	agtctatgtg	ccccccacag	cagtatggct	ttccagctac	cccatttggc	6180
gctcaatgga	gtgggacggg	tggcccagca	ccacagccac	ttggccagtt	ccaacctgtg	6240
ggaactgcct	ccttgagaa	tttcaacatc	agcaatttgc	agaaatccat	cagcaacccc	6300
ccaggctcca	acctgcccag	cacttag				6327

<210> 30
 <211> 2108
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2108)

<223> Xaa = Any Amino Acid

<400> 30

Met	Ser	Gly	Gly	Ala	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1				5				10						15	
Phe	Leu	Ser	Pro	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20					25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val	Thr
		35					40					45			
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
50					55					60					
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe	Phe
65					70					75					80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro
			85						90					95	
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro
		100						105					110		
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr
		115					120					125			
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
		130				135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
			165						170					175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
		195					200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
		210				215					220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
			245						250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275					280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
		290				295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
			325						330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355					360					365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
		370				375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
			405					410						415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
		420						425					430		
Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480

Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485					490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
				500				505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
				515			520					525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
						535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545					550					555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
				565					570						575
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln
				580				585					590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
				595			600					605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
				610			615					620			
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645					650						655
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
				660				665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
				675			680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
				690		695						700			
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr
705					710					715					720
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
				725					730						735
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
			740				745					750			
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val
		755				760						765			
Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala
		770				775					780				
Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp
785					790					795					800
Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser
				805					810						815
Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val
			820					825					830		
Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile
			835				840					845			
Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu
					855						860				
Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp
865					870					875					880
Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu
				885					890					895	
Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu
				900				905					910		
Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly
				915			920						925		
Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser
						935					940				
Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser
945					950					955					960
Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val
				965					970						975
Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser

Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	980	985	990
																995	1000	1005
Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala			
																1010	1015	1020
Ser	Ser	Leu	Ser	Leu	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln				
1025																1030	1035	1040
Met	Thr	Glu	Gly	Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	Thr	Gly			
																1045	1050	1055
Pro	Thr	Phe	Pro	Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val			
																1060	1065	1070
Pro	Thr	Thr	Ala	Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro			
																1075	1080	1085
Pro	Asn	Asp	Ile	Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro			
																1090	1095	1100
Thr	Glu	Glu	Gly	Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr			
1105																1110	1115	1120
Ser	Gly	Gly	Leu	Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser			
																1125	1130	1135
Ser	Val	Val	Ser	Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr			
																1140	1145	1150
Thr	Ser	Pro	Ser	Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val			
																1155	1160	1165
Ser	Ser	Thr	Ala	Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala			
																1170	1175	1180
Ser	Ala	Gly	Gly	Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val			
1185																1190	1195	1200
Val	Ser	Gln	Gln	Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr			
																1205	1210	1215
Ser	Val	Ser	Thr	Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser			
																1220	1225	1230
Ile	Gln	Leu	Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val			
																1235	1240	1245
Val	Val	Ser	Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr			
																1250	1255	1260
Gly	Leu	Ala	Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly			
1265																1270	1275	1280
Ala	Gly	Val	Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu			
																1285	1290	1295
Val	Ile	Pro	Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala			
																1300	1305	1310
Gly	Pro	Thr	Ser	Thr	Pro	Leu	Leu	Pro	Gln	Val	Pro	Ser	Ile	Pro	Pro			
																1315	1320	1325
Leu	Val	Gln	Pro	Val	Ala	Asn	Val	Pro	Ala	Val	Gln	Gln	Thr	Leu	Ile			
																1330	1335	1340
His	Ser	Gln	Pro	Gln	Pro	Ala	Leu	Leu	Pro	Asn	Gln	Pro	His	Thr	His			
1345																1350	1355	1360
Cys	Pro	Glu	Val	Asp	Ser	Asp	Thr	Gln	Pro	Lys	Ala	Pro	Gly	Ile	Asp			
																1365	1370	1375
Asp	Ile	Lys	Thr	Leu	Glu	Glu	Lys	Leu	Arg	Ser	Leu	Phe	Ser	Glu	His			
																1380	1385	1390
Ser	Ser	Ser	Gly	Ala	Gln	His	Ala	Ser	Val	Ser	Leu	Glu	Thr	Ser	Leu			
																1395	1400	1405
Val	Ile	Glu	Ser	Thr	Val	Thr	Pro	Gly	Ile	Pro	Thr	Thr	Ala	Val	Ala			
																1410	1415	1420
Pro	Ser	Lys	Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	Pro	Thr			
1425																1430	1435	1440
Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr			
																1445	1450	1455
Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys			
																1460	1465	1470
Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu			
																1475	1480	1485

Pro Val Gly Thr Glu Leu	Pro Ala Gly Thr Leu	Pro Ser Glu Gln Leu	1490	1495	1500
Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro Leu Glu			1505	1510	1515
Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile Thr				1525	1530
Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala Ile				1540	1545
Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys Glu				1555	1560
Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met Gly				1570	1575
Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly Lys				1585	1590
Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr Ser				1605	1610
Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu Val Lys				1620	1625
Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val Pro				1635	1640
Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr Gly				1650	1655
Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn Lys				1665	1670
Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp Thr				1685	1690
Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu Gln				1700	1705
Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu Ser				1715	1720
Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Ala Phe				1730	1735
Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro His				1745	1750
Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser Leu				1765	1770
Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp				1780	1785
Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys				1795	1800
His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile				1810	1815
Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile				1825	1830
Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Pro Thr Lys Ser				1845	1850
Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro				1860	1865
Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His				1875	1880
Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln				1890	1895
Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu				1905	1910
Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser				1925	1930
Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val				1940	1945
Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg				1955	1960
Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn Trp Ala				1970	1975
Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly His Met				1980	

1985		1990		1995		2000
Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro Gly Gln						
	2005			2010		2015
Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro Ile Ser						
	2020			2025		2030
Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys Pro						
	2035			2040		2045
Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser						
	2050			2055		2060
Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro Val						
	2065			2070		2075
Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser						
	2085			2090		2095
Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr						
	2100			2105		

<210> 31
 <211> 5916
 <212> DNA
 <213> Homo sapiens

<400> 31

atgtctggcg	gcgccgcaga	gaagcagagc	agcactcccg	gttccctggt	cctctcgccg	60
ccggctcctg	cccccaagaa	tggtctccagc	tccgattcct	ccgtggggga	gaaactggga	120
gccgcggccg	ccgacgctgt	gaccggcagg	accgaggagt	acaggcgccg	ccgccacact	180
atggacaagg	acagccgtgg	ggcgcccgcg	accactacca	ccactgagca	ccgcttcttc	240
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccgg	ccttctctct	300
tccctgcccc	agcccagcat	ccccgcggct	gtcccgca	gtgctccacc	ggagccccac	360
cgggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	420
gccgcccctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	480
agcaaagacc	gcccagtgtc	ccagcctagc	cttgtgggga	gcaaagagga	gccgcgcgcg	540
gcgagaagtg	gcagcggcgg	ggcgacgcgc	aaggagccac	aggaggaaacg	gagccagcag	600
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	660
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggtctggac	720
actgaaacca	ccgtggaagt	cgccctggtg	gaactgcagg	atcgaaaatt	aacaaagtct	780
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	840
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	900
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	960
atcaaagtct	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	1020
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	1080
actggctcag	tcaagattgg	agacctcggt	ctggcaacct	tgaagcgggc	ttcttttgcc	1140
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1200
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctg	agatggctac	atctgaatat	1260
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1320
ccagccagtt	ttgacaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1380
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1440
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1500
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1560
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1620
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1680
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1740
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1800
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1860
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1920
cagtaccagc	aacccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1980
tctctgtctc	tcacagaatc	tcgagttagc	agccaacaga	cagtttcata	tggttcccaa	2040
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	2100
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	2160
gcccctcctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2220
actactgcac	agccagttag	tcagcctcaa	gtccacaag	tcttgccctc	agtatcagct	2280
ggaaaacaga	gtactcaggg	agtctctcag	gttgctcctg	cagagccagt	tgcagttagca	2340
cagccccaag	ctacccagcc	gaccactttg	gcttctctct	tagacagtgc	acattcagat	2400
gttgcttcag	gttagatgta	tggcaatgag	aacgtcccat	cttccagtgg	aaggcatgaa	2460

ggaagaacta	caaaacggca	ttaccgaaaa	tctgtaaggga	gtcgcctctcg	acatgaaaaa	2520
acttcacgcc	caaaattaag	aattttgaat	gtttcaaata	aaggagaccg	agtagtagaa	2580
tgtcaattag	agactcataa	taggaaaaatg	gttacattca	aatttgacct	agatggtgac	2640
aaccccgagg	agatagcaac	aattatggtg	aacaatgact	ttattctagc	aatagagaga	2700
gagtcgtttg	tggatcaagt	gcgagaaatt	attgaaaaag	ctgatgaaat	gctcagtgag	2760
gatgtcagtg	tgggaaccaga	gggtgatcag	ggattggaga	gtctacaagg	aaaggatgac	2820
tatggccttt	cagggttctca	gaaattggaa	ggagagttca	aacaaccaat	tctgcgtct	2880
tccatgccac	agcaaatagg	cattcctacc	agttctttta	ctcaagttgt	tcattctgcg	2940
ggaaggcggt	ttatagttag	tcctgtgcca	gaaagccgat	tacgagaatc	aaaagttttc	3000
cccagtgaaa	taacagatac	agttgctgcc	tctacagctc	agagccctgg	aatgaacttg	3060
tctcactctg	catcatccct	tagtctacaa	caggcctttt	ctgaacttag	acgtgcccaa	3120
atgacagaag	gacccaayac	agcacctcca	aactttagtc	atacaggacc	aacattttcca	3180
gtagtacctc	ctttctttaag	tagcattgct	ggagtcctca	ccacagcagc	agccacagca	3240
ccagtcctcg	caacaagcag	ccctcctaatt	gacatttcca	catcagtaat	tcagttctgag	3300
gttacagtg	ccactgaaga	ggggattgct	ggagttgcca	ccagcacagg	tgtggtaact	3360
tcaggtgggt	tccccatacc	acctgtgtct	gaatcaccag	tactttccag	cgtagtttca	3420
agtatcacaa	tacctgcagt	tgtctcaata	tctactacat	ccccgtcact	tcaagtcccc	3480
acatccacat	ctgagatcgt	tgtttctagt	acagcactgt	atccttcagt	aacagtttca	3540
gcaacttcag	cctctgcagg	gggcagtact	gctaccccag	gtcctaagcc	tccagctgta	3600
gtagtctcag	aggcagcagg	cagcactact	gtgggagcca	cattaacatc	agtttctacc	3660
accacttcat	tccccagcac	agcttcacag	ctgtccattc	agcttagcag	cagtacttct	3720
actcctactt	tagctgaaac	cgtggtagtt	agcgcacact	cactagataa	gacatctcat	3780
agcagtacaa	ctggattggc	tttctccctc	tctgcaccat	cttctctctc	ctctcctgga	3840
gcaggagtg	ctagttatat	ttctcagcct	ggtgggctgc	atccttttgt	cattccatca	3900
gtgtagctt	ctactcctat	tcttccccaa	gcagcaggac	ctacttctac	acctttatta	3960
cccaagtag	ctagtatccc	acccttggtg	cagcctgttg	ccaatgtgcc	tgctgtacag	4020
cagacactaa	ttcatagtca	gcctcaacca	gctttgcttc	ccaaccagcc	ccatactcat	4080
tgtcctgaag	tagattctga	tacacaaccc	aaagctcctg	gaattgatga	cataaagact	4140
ctagaagaaa	agctgcgggt	tctgttcagt	gaacacagct	catctggagc	tcagcatgcc	4200
tctgtctcac	tggagacctc	actagtcata	gagagcactg	tcacaccagg	catcccaact	4260
actgctgttg	caccaagcaa	actcctgact	tctaccacaa	gtacttgctt	accaccaacc	4320
aattttaccac	taggaacagt	tgctttgcca	gttacaccag	tggtcacacc	tgggcaagtt	4380
tctaccccag	tcagcactac	tacatcagga	gtgaaacctg	gaactgctcc	ctccaagcca	4440
cctctaacta	aggctccggg	gctgccagtg	ggtactgaac	ttccagcagg	tactctaccc	4500
agcgagcagc	tgccaccttt	tccaggacct	tctctaacc	agtcccagca	acctctagag	4560
gatcttgatg	ctcaattgag	aagaacactt	agtccagaga	tkatcacagt	gacttctgcg	4620
gttggtcctg	tgtccatggc	ggctccaaca	gcaatcacag	aagcaggaac	acagcctcag	4680
aagggtgttt	ctcaagtcaa	agaaggccct	gtccctagcaa	ctagttcagg	agctgggtgt	4740
tttaagatgg	gacgatttca	ggtttctgtt	gcagcagacg	gtgcccagaa	agagggtaaa	4800
aataagtcag	aagatgcaaa	gtctgttcat	tttgaatcca	gcacctcaga	gtcctcagtg	4860
ctatcaagta	gtagtccaga	gagtaccttg	gtgaaaccag	agccgaatgg	cataaccatc	4920
cctgggtatct	cttcagatgt	gccagagagt	gcccacaaaa	ctactgcctc	agaggcaaa	4980
tcagacactg	ggcagcctac	caagggttga	cgtttttcagg	tgacaactac	agcaaaacaa	5040
gtgggtcgtt	tctctgtatc	aaaaactgag	gacaagatca	ctgacacaaa	gaaagaagga	5100
ccagtggcat	ctcctccttt	tatggatttg	gaacaagctg	ttcttctctg	tgtgatacca	5160
aagaaagaga	agcctgaact	gtcagagcct	tcacatctaa	atgggcccgc	ttctgacccg	5220
gaggccgctt	ttttaagtag	ggatgtggat	gatggttccg	gtagtccaca	ctcgcccat	5280
cagctgagct	caaagagcct	tcttagccag	aatctaagtc	aaagccttag	taattcattt	5340
aactcctctt	acatgagtag	cgacaatgag	tcagatatcg	aagatgaaga	cttaaagtta	5400
gagctgcgac	gactacgaga	taaacatctc	aaagagattc	aggacctgca	gagtcgccag	5460
aagcatgaaa	ttgaatcttt	gtataacaaa	ctgggcaagg	tgccccctgc	tgttattatt	5520
ccccagctg	ctcccccttt	agggagaaga	cgacgaccca	ctaaaagcaa	aggcagcaaa	5580
tctagtgcga	gcagttcctt	ggggaataaa	agcccccagc	tttcaggtaa	cctgtctggt	5640
cagagtgcag	cttcagtcct	gcacccccag	cagaccctcc	accctcctgg	caacatccca	5700
gagtcggggc	agaatcagct	gttacagccc	cttaagccat	ctccctccag	tgacaacctc	5760
tattcagcct	tcaccagtga	tggtgccatt	tcagtagcaa	gcctttctgc	tccaggtcaa	5820
ggaataaagc	aaccatcacc	gtccaaaaac	aataaaattg	agatgttgcc	atacctggga	5880
caaaagcctg	ttaaggcggtg	ttgggagact	agctga			5916

<210> 32
<211> 1971

<212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(1971)
 <223> Xaa = Any Amino Acid

<400> 32

Met	Ser	Gly	Gly	Ala	Ala	Glu	Lys	Gln	Ser	Ser	Thr	Pro	Gly	Ser	Leu
1				5					10					15	
Phe	Leu	Ser	Pro	Pro	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Ser	Ser	Ser	Asp
			20					25					30		
Ser	Ser	Val	Gly	Glu	Lys	Leu	Gly	Ala	Ala	Ala	Ala	Asp	Ala	Val	Thr
		35					40					45			
Gly	Arg	Thr	Glu	Glu	Tyr	Arg	Arg	Arg	Arg	His	Thr	Met	Asp	Lys	Asp
	50					55					60				
Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu	His	Arg	Phe	Phe
65					70					75					80
Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro
				85					90					95	
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro
			100					105					110		
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr
	115						120						125		
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly
	130					135					140				
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr
145					150					155					160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu
				165					170					175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu
			180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu
			195				200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp
	210				215						220				
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp
225					230					235					240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys
				245					250					255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu
			260					265					270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu
		275					280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met
	290					295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys
305					310					315					320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln
			325						330					335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys
			340					345					350		
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp
		355				360						365			
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile
	370					375					380				
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp
385					390					395					400
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala
				405				410						415	
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr
			420					425					430		

Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	Asp	Lys	Val	Ala
		435					440					445			
Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Gln	Asn	Lys
	450					455					460				
Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	Ala	Phe	Phe	Gln
465					470					475					480
Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	Asp	Asp	Gly	Glu
				485					490					495	
Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	Ile	Lys	Lys	Leu
		500						505					510		
Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	Ser	Phe	Asp	Leu
		515					520					525			
Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	Val	Glu	Ser	Gly
	530					535					540				
Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	Ala	Ile	Lys	Asp
545					550					555					560
Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	Gln	Leu	Val	Arg
				565					570					575	
Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	Leu	Lys	Gln	Gln
				580				585					590		
Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	Gln	Leu	Pro	Ser
		595					600					605			
Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	Ala	Ser	Val	Ser
	610					615					620				
Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	His	Gln	Gln	Leu
625					630					635					640
Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	Gly	Thr	Val	Asp
				645					650					655	
Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	Val	Ser	Ser	Gln
			660					665					670		
Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	His	Ser	Thr	Gly
		675					680					685			
Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	Gln	Ser	Gln	Pro
	690					695					700				
His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	Ile	Gln	Gln	Thr
705					710					715					720
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
				725					730					735	
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
			740					745					750		
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val
		755					760					765			
Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala
	770					775					780				
Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp
785					790					795					800
Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser
				805					810					815	
Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val
			820					825					830		
Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile
		835					840					845			
Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu
	850					855					860				
Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp
865					870					875					880
Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu
				885					890					895	
Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu
			900					905					910		
Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly
		915					920						925		
Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser

930					935					940					
Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro Ala Ser															
945					950					955					960
Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr Gln Val															
				965						970					975
Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro Glu Ser															
			980					985						990	
Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp Thr Val															
			995				1000						1005		
Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His Ser Ala															
			1010				1015						1020		
Ser Ser Leu Ser Leu Gln Ala Phe Ser Glu Leu Arg Arg Ala Gln															
1025					1030					1035					1040
Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His Thr Gly															
			1045						1050						1055
Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala Gly Val															
			1060						1065						1070
Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser Ser Pro															
			1075				1080							1085	
Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr Val Pro															
			1090				1095							1100	
Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val Val Thr															
1105					1110					1115					1120
Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val Leu Ser															
			1125						1130						1135
Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile Ser Thr															
			1140						1145						1150
Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile Val Val															
			1155						1160						1165
Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr Ser Ala															
			1170				1175							1180	
Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro Ala Val															
1185					1190					1195					1200
Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr Leu Thr															
			1205							1210					1215
Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln Leu Ser															
			1220						1225						1230
Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu Thr Val															
			1235						1240						1245
Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser Thr Thr															
			1250						1255						1260
Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser Pro Gly															
1265									1270						1280
Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His Pro Leu															
			1285						1290						1295
Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln Ala Ala															
			1300						1305						1310
Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile Pro Pro															
			1315						1320						1325
Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu Ile															
			1330						1335						1340
His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr His															
1345									1350						1360
Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly Ile Asp															
			1365						1370						1375
Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu His															
			1380						1385						1390
Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr Ser Leu															
			1395						1400						1405
Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala															
			1410						1415						1420
Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr															
1425									1430						1440

Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr		
				1445					1450					1455			
Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys		
			1460					1465					1470				
Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu		
		1475					1480					1485					
Pro	Val	Gly	Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	Gln	Leu		
	1490					1495					1500						
Pro	Pro	Phe	Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro	Leu	Glu		
1505					1510					1515					1520		
Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr		
			1525						1530					1535			
Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile		
		1540						1545					1550				
Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu		
	1555					1560						1565					
Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly		
	1570					1575					1580						
Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys		
1585				1590					1595						1600		
Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser	Thr	Ser		
			1605						1610					1615			
Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu	Val	Lys		
	1620							1625					1630				
Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	Val	Pro		
	1635					1640						1645					
Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	Thr	Gly		
	1650					1655					1660						
Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Thr	Ala	Asn	Lys		
1665					1670					1675					1680		
Val	Gly	Arg	Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr	Asp	Thr		
			1685						1690					1695			
Lys	Lys	Glu	Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu	Glu	Gln		
		1700						1705					1710				
Ala	Val	Leu	Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu	Leu	Ser		
	1715					1720						1725					
Glu	Pro	Ser	His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala	Ala	Phe		
	1730					1735					1740						
Leu	Ser	Arg	Asp	Val	Asp	Asp	Gly	Ser	Gly	Ser	Pro	His	Ser	Pro	His		
1745				1750					1755						1760		
Gln	Leu	Ser	Ser	Lys	Ser	Leu	Pro	Ser	Gln	Asn	Leu	Ser	Gln	Ser	Leu		
			1765						1770					1775			
Ser	Asn	Ser	Phe	Asn	Ser	Ser	Tyr	Met	Ser	Ser	Asp	Asn	Glu	Ser	Asp		
		1780						1785					1790				
Ile	Glu	Asp	Glu	Asp	Leu	Lys	Leu	Glu	Leu	Arg	Arg	Leu	Arg	Asp	Lys		
	1795					1800						1805					
His	Leu	Lys	Glu	Ile	Gln	Asp	Leu	Gln	Ser	Arg	Gln	Lys	His	Glu	Ile		
	1810				1815						1820						
Glu	Ser	Leu	Tyr	Thr	Lys	Leu	Gly	Lys	Val	Pro	Pro	Ala	Val	Ile	Ile		
1825					1830					1835					1840		
Pro	Pro	Ala	Ala	Pro	Leu	Ser	Gly	Arg	Arg	Arg	Arg	Pro	Thr	Lys	Ser		
			1845						1850					1855			
Lys	Gly	Ser	Lys	Ser	Ser	Arg	Ser	Ser	Ser	Leu	Gly	Asn	Lys	Ser	Pro		
		1860						1865				1870					
Gln	Leu	Ser	Gly	Asn	Leu	Ser	Gly	Gln	Ser	Ala	Ala	Ser	Val	Leu	His		
	1875					1880						1885					
Pro	Gln	Gln	Thr	Leu	His	Pro	Pro	Gly	Asn	Ile	Pro	Glu	Ser	Gly	Gln		
	1890					1895					1900						
Asn	Gln	Leu	Leu	Gln	Pro	Leu	Lys	Pro	Ser	Pro	Ser	Ser	Asp	Asn	Leu		
1905				1910					1915						1920		
Tyr	Ser	Ala	Phe	Thr	Ser	Asp	Gly	Ala	Ile	Ser	Val	Pro	Ser	Leu	Ser		
			1925						1930					1935			
Ala	Pro	Gly	Gln	Gly	Ile	Lys	Gln	Pro	Ser	Ser	Ser	Lys	Asn	Asn	Lys		

1940 1945 1950
 Met Glu Met Leu Pro Tyr Leu Gly Gln Lys Pro Val Lys Ala Gly Trp
 1955 1960 1965
 Glu Thr Ser
 1970

<210> 33
 <211> 6969
 <212> DNA
 <213> Homo sapiens

<400> 33
 atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc 60
 cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttctcttt 120
 tccctgcccc agcccagcat ccccgcggt gtcccgca gaactccacc ggagccccac 180
 cgggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct 240
 gccgcccctg gggaaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 300
 agcaaagacc gccagtgct ccagcctagc cttgtgggga gcaaagagga gccgccggcg 360
 gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
 caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
 ctcaagtttg acatcgaaat cggcagaggg tcccttaaga cggctctaca aggtctggac 540
 actgaaacca ccgtggaagt cgccctgggt gaactgcagg atcgaaaatt aacaaagtct 600
 gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
 gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgc atgttttggtg 720
 actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggttta agtgatgaag 780
 atcaaagttc taagaagctg gtgcccgcag atccttaaag gtcttcagtt tcttcatact 840
 cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
 actggctcag tcaagattgg agacctcggt ctggcaacct tgaagcgggc ttcttttgcc 960
 aagagtgtga taggtacccc agagttcatg gcccttgaga tgtatgagga gaaatatgat 1020
 gaatccgttg acgtttatgc ttttgggatg tgcattgctt agatggctac atctgaatat 1080
 ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1140
 ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggtgcata 1200
 cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaacctg cttcttccaa 1260
 gaggaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
 aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1380
 gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
 gtagagtctg ggtatgtctg tgaagggtgat cacaagacca tggctaaaagc tatcaaagac 1500
 agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcggg gagcaagaa 1560
 aaaaaaaagc aggaagagag aggtctcaaa cagcaggtag aacaatccag tgcttcccag 1620
 acaggaatca agcagctccc ttctgctagc accggcctac ctactgttc taccacttca 1680
 gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
 cagtaccagc aaccaggtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1800
 tcctctgtct tcacagaatc tcgagtgage agccaacaga cagtttccata tggttcccaa 1860
 catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
 cagtcctcag cccatgggt atattccacc tcaagtgtgg cacaggggca gagccagggt 1980
 cagccatcct caagtagctt aacagggggt tcatcttccc aaccataca acatcctcag 2040
 cagcagcagg gaatacagca gacagccct cctcaacaga cagtgcagta ttcactttca 2100
 cagacatcaa cctccagtga ggccactact gcacagccag tgagtcagcc tcaagctcca 2160
 caagtcttgc ctcaagtatc agctggaaaa cagcttccag tttcccagcc agtaccact 2220
 atccaaggcg aacctcagat ccagttgag acacaacct cggttggtcc agtccactct 2280
 ggtgctcatt tccttcaggt gggacagccg ctccctactc ccttgctccc tcagtacct 2340
 gtctctcaga ttcccatatc aactcctcat gtgtctacgg ctacagacagg tttctcatcc 2400
 cttcccatca caatggcagc tggcattact cagcctctgc tcacgttggc ttcactctgt 2460
 acaacagctg cgatcccggg ggtatcaact gtggttctta gtcagcttcc aaccttctg 2520
 cagcctgtga ctacagctgc aagtcagggt caccacagc tctacaacc agcagttcag 2580
 tccatgggaa taccagctaa ccttggacaa gctgctgagg ccaccacagt acccaggaga ttcataat 2640
 gttctgtacc agggcttccc acctcgactg atccattcta cagtcctawc cctcccctg 2700
 gctccctctt ccaacgtggc ttctgtttgc atccattcta cagtcctawc cctcccctg 2760
 ccgacagaag tactggctac acctgggtac tttccacag tggtagcagc ttatgtggaa 2820
 tcaaactctt tagttcctat ggggtgtgta ggaggacagg ttcaagtgtc ccagccagga 2880
 gggagtttag cacaagcccc cactacatcc tcccagcaag cagttttgga gactactcag 2940
 ggagtctctc aggttgctcc tgcagagcca gtgcagtag cacageccca agctaccag 3000
 ccgaccactt tggcttccct ttagacagtg gcacattcag atgttgcttc aggtatgagt 3060

gatggcaatg	agaacgtccc	atcttccagt	ggaaggcatg	aaggaagaac	tacaaaacgg	3120
cattaccgaa	aatctgttaag	gagtcgctct	cgacatgaaa	aaacttcacg	cccaaaatta	3180
agaattttga	atgtttcaaa	taaaggagac	cgagtagtag	aatgtcaatt	agagactcat	3240
aataggaaaa	tggttacatt	caaatttgac	ctagatgggtg	acaaccccga	ggagatagca	3300
acaattatgg	tgaacaatga	ctttattcta	gcaatagaga	gagagtcggt	tgtggatcaa	3360
gtgcgagaaa	ttattgaaaa	agctgatgaa	atgctcagtg	aggatgtcag	tgtggaacca	3420
gaggggtgatc	agggattgga	gagcttacaa	ggaaggatg	actatggctt	ttcaggttct	3480
cagaaattgg	aaggagagtt	caaacaacca	attcctgcgt	cttccatgcc	acagcaaata	3540
ggcatttccta	ccagttcttt	aactcaagtt	gttcattctg	cgggaaggcg	gtttatagt	3600
agtcctgtgc	cagaaagccg	attacgagaa	tcaaaagttt	tccccagtga	aataacagat	3660
acagttgctg	cctctacagc	tcagagccct	ggaatgaact	tgtctcactc	tgcatcatcc	3720
cttagtctac	aacaggccct	ttctgaactt	agacgtgccc	aatgacaga	aggacccaay	3780
acagcacctc	caaacttttag	tcatacagga	ccaacatttc	cagtagtacc	tcctttctta	3840
agtcgacttg	ctggagttgga	aaccacagca	gcagccacag	caccagtccc	tgcaacaagc	3900
agccctccta	atgacatttc	cacatcagta	attcagtcgt	aggttacagt	gcccactgaa	3960
gaggggattg	ctggagttgc	caccagcaca	ggtgtggtaa	cttcagggtg	tctccccata	4020
ccacctgtgt	ctgaatcacc	agtactttcc	agcgtagtgt	caagtatcac	aatacctgca	4080
gttgtctcaa	tatctactac	atccccgtca	cttcaagtc	ccacatccac	atctgagatc	4140
gttgtttcta	gtacagcact	gtatccttca	gtaacagttt	cagcaacttc	agcctctgca	4200
gggggcagta	ctgtaccccc	aggtcctaag	cctccagctg	tagtatctca	gcaggcagca	4260
ggcagcacta	ctgtgggagc	cacattaaca	tcagtttcta	ccaccacttc	attcccaagc	4320
acagcttcac	agctgtccat	tcagcttagc	agcagtaact	ctactcctac	tttagctgaa	4380
accgtggtag	ttagcgcaca	ctcactagat	aagacatctc	atagcagtac	aactggattg	4440
gctttctccc	tctctgcacc	atcttccctc	tcctctcctg	gagcaggagt	gtctagttat	4500
atttctcage	ctgggtgggt	gcctcctttg	gtcattccat	cagtgatagc	ttctactcct	4560
atttctcccc	aagcagcagg	acctacttct	acacctttat	taccccaagt	acctagtatc	4620
ccacccttgg	tacagcctgt	tgccaatgtg	cctgctgtac	agcagacact	aattcatagt	4680
cagcctcaac	cagctttgct	tcccaaccag	ccccatactc	attgtcctga	agtagattct	4740
gatacacaac	ccaaagctcc	tggaattgat	gacataaaga	ctctagaaga	aaagctgcgg	4800
tctctgttca	gtgaacacag	ctcatctgga	gctcagcatg	cctctgtctc	actggagacc	4860
tcactagtca	tagagagcac	tgtcacacca	ggcatcccaa	ctactgctgt	tgaccaaacg	4920
aaactcctga	cttctaccac	aagtacttgc	ttaccaccaa	ccaatttacc	actaggaaca	4980
gttgctttgc	cagttacacc	agtggtcaca	cctgggcaag	tttctacccc	agtcgacact	5040
actacatcag	gagtgaaacc	tggaactgct	ccctccaagc	cacctctaac	taaggctccg	5100
gtgctgccag	tgggtactga	acttccagca	ggtactctac	ccagcgagca	gctgccacct	5160
tttccaggac	cttctctaac	ccagtcaccg	caacctctag	aggatcttga	tgctcaattg	5220
agaagaacac	ttagtccaga	gatkatcaca	gtgacttctg	cggttgggtc	tgtgtccatg	5280
gcggctccaa	cagcaatcac	agaagcagga	acacagcctc	agaagggtgt	ttctcaagtc	5340
aaagaaggcc	ctgtcctagc	aactagtcca	ggagctgggt	tttttaagat	gggacgattt	5400
caggtttctg	ttgcagcaga	cgggtgcccg	aaagagggtg	aaaataagtc	agaagatgca	5460
aagtctgttc	attttgaatc	cagcacctca	gagtcctcag	tgctatcaag	tagtagtcca	5520
gagagtacct	tgggtgaaacc	agagccgaat	ggcataacca	tccttggtat	ctcttcagat	5580
gtgccagaga	gtgcccacaa	aactactgcc	tcagaggcaa	agtcagacac	tgggcagcct	5640
accaaggttg	gagcttttca	ggtgacaact	acagcaaaca	aagtgggtcg	tttctctgta	5700
tcaaaaacctg	aggacaatga	cactgacaca	aagaaagaag	gaccagtggc	atctcctcct	5760
tttatggatt	tggaaacaagc	tggttcttct	gctgtgatac	caaagaaaga	gaagcctgaa	5820
ctgtcagagc	cttcacatct	aaatgggccc	tcttctgacc	cggaggccgc	ttttttaagt	5880
agggatgtgg	atgatgggtc	cggtagtcca	cactcgcccc	atcagctgag	ctcaaagagc	5940
cttccctagcc	agaatctaag	tcaaagcctt	agtaattcat	ttaaactcctc	ttacatgagt	6000
agcgacaatg	agtcagatat	cgaagatgaa	gacttaaagt	tagagctgcg	acgactacga	6060
gataaacatc	tcaaagagat	tcaggacctg	cagagctgcc	agaagcatga	aattgaatct	6120
ttgtatacca	aactgggcaa	ggtgccccct	gctgttatta	ttccccccagc	tgctccccctt	6180
tcaggggagaa	gacgacgacc	cactaaaagc	aaaggcagca	aatctagtgc	aagcagttcc	6240
ttgggggaata	aaagccccc	gctttcagggt	aacctgtctg	gtcagagtgc	agcttcagtc	6300
ttgcaccccc	agcagaccct	ccaccctcct	ggcaacatcc	cagagtccgg	gcagaatcag	6360
ctgttacagc	cccttaagcc	atctccctcc	agtgacaacc	tctattcagc	cttcaccagt	6420
gatggtgcca	tttcagttacc	aagcctttct	gctccaggtc	aaggaaccag	cagcacaac	6480
actgttgggg	caacagtgaa	cagccaagcc	gcccagctc	agcctcctgc	catgacgtcc	6540
agcaggaagg	gcacattcac	agatgacttg	cacaagttgg	tagacaattg	ggcccagagat	6600
gccatgaatc	tctcaggcag	gagaggaagc	aaagggcaca	tgaattatga	gggccctgga	6660
atggcaagga	agttctctgc	acctgggcaa	ctgtgcatct	ccatgacctc	gaacctgggt	6720
ggctctgccc	ccatctctgc	agcatcagct	acctctctag	gtcacttcac	caagtctatg	6780
tgcccccaac	agcagtatgg	ctttccagct	accccatgtg	gcgctcaatg	gagtgggacg	6840

```

ggtggcccag caccacagcc acttggccag ttccaacctg tgggaactgc ctccttgag 6900
aatttcaaca tcagcaattt gcagaaatcc atcagcaacc cccaggtc caacctgcgg 6960
accacttag 6969

```

```

<210> 34
<211> 2322
<212> PRT
<213> Homo sapiens

```

```

<220>
<221> VARIANT
<222> (1)...(2322)
<223> Xaa = Any Amino Acid

```

```

<400> 34
Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu
1      5      10      15
His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala
20     25     30
Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro
35     40     45
Ala Ala Val Pro Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr
50     55     60
Val Thr Ala Thr Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala
65     70     75     80
Ala Ala Pro Gly Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val
85     90     95
Pro Ser Ser Thr Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val
100    105    110
Gly Ser Lys Glu Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly
115    120    125
Ser Ala Lys Glu Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile
130    135    140
Glu Glu Leu Glu Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe
145    150    155    160
Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr
165    170    175
Lys Gly Leu Asp Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu
180    185    190
Gln Asp Arg Lys Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu
195    200    205
Ala Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr
210    215    220
Asp Ser Trp Glu Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val
225    230    235    240
Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe
245    250    255
Lys Val Met Lys Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu
260    265    270
Lys Gly Leu Gln Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg
275    280    285
Asp Leu Lys Cys Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val
290    295    300
Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala
305    310    315    320
Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu
325    330    335
Glu Lys Tyr Asp Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met
340    345    350
Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala
355    360    365

```

Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
370						375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
				405					410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420				425						430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435				440					445				
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450				455					460					
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
			485						490					495	
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
			500					505					510		
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
	530					535					540				
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
				565					570					575	
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
		595				600					605				
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala
	610					615					620				
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala
625					630					635					640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly
				645					650					655	
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser
			660					665					670		
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	
		675					680				685				
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
	690					695					700				
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
705					710					715					720
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser	Gln
				725					730					735	
Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr	Gln
			740					745					750		
Pro	Ser	Val	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly
		755					760					765			
Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln	Ile
	770					775					780				
Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser
785					790					795					800
Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu
				805					810					815	
Ala	Ser	Ser	Ala	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val
			820					825					830		
Pro	Ser	Gln	Leu	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser
		835					840					845			
Gln	Val	His	Pro	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile
	850					855					860				
Pro	Ala	Asn	Leu	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp

865					870					875				880
Val	Leu	Tyr	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro
				885					890					895
Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile
			900					905					910	
Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr
		915					920						925	
Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu
	930					935					940			
Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro
945					950					955				960
Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val
				965					970					975
Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val
			980					985					990	
Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser
	995						1000						1005	
Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn
	1010					1015								
Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys
1025					1030					1035				1040
His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr
			1045							1050				1055
Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg
			1060						1065					1070
Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe
	1075						1080						1085	
Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met
	1090					1095					1100			
Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp
1105					1110					1115				1120
Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp
			1125						1130					1135
Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly
			1140					1145					1150	
Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe
	1155						1160						1165	
Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro
	1170					1175					1180			
Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile
1185					1190					1195				1200
Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro
			1205						1210					1215
Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro	Gly
			1220					1225					1230	
Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu	Ser	Leu	Gln	Gln	Ala	Phe
	1235						1240						1245	
Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly	Pro	Asn	Thr	Ala	Pro
	1250					1255					1260			
Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	Val	Val	Pro	Pro	Phe
1265					1270					1275				1280
Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr	Ala	Ala	Ala	Thr	Ala	Pro
			1285						1290					1295
Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile	Ser	Thr	Ser	Val	Ile
			1300					1305					1310	
Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Gly	Ile	Ala	Gly	Val	Ala	Thr
	1315						1320					1325		
Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile	Pro	Pro	Val
	1330						1335				1340			
Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser	Ser	Ile	Thr	Ile	Pro
1345					1350					1355				1360
Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln	Val	Pro	Thr
			1365						1370					1375

Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr	Ala	Leu	Tyr	Pro	Ser	Val	Thr		
			1380						1385					1390			
Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr	Ala	Thr	Pro	Gly		
			1395					1400						1405			
Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	Gln	Ala	Ala	Gly	Ser	Thr	Thr		
			1410				1415							1420			
Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr	Ser	Phe	Pro	Ser		
			1425				1430				1435				1440		
Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser	Thr	Ser	Thr	Pro		
				1445					1450						1455		
Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	Ala	His	Ser	Leu	Asp	Lys	Thr		
			1460						1465					1470			
Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu	Ser	Ala	Pro	Ser		
			1475				1480							1485			
Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr	Ile	Ser	Gln	Pro		
			1490				1495					1500					
Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	Ala	Ser	Thr	Pro		
			1505				1510				1515				1520		
Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	Leu	Leu	Pro	Gln		
				1525						1530					1535		
Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	Asn	Val	Pro	Ala		
				1540					1545					1550			
Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	Ala	Leu	Leu	Pro		
				1555				1560						1565			
Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	Val	Asp	Ser	Asp	Thr	Gln	Pro		
			1570				1575					1580					
Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	Glu	Lys	Leu	Arg		
				1585			1590				1595				1600		
Ser	Leu	Phe	Ser	Glu	His	Ser	Ser	Ser	Gly	Ala	Gln	His	Ala	Ser	Val		
				1605					1610					1615			
Ser	Leu	Glu	Thr	Ser	Leu	Val	Ile	Glu	Ser	Thr	Val	Thr	Pro	Gly	Ile		
				1620					1625					1630			
Pro	Thr	Thr	Ala	Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	Ser	Thr	Thr	Ser		
				1635				1640						1645			
Thr	Cys	Leu	Pro	Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro		
				1650			1655					1660					
Val	Thr	Pro	Val	Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr		
				1665			1670				1675				1680		
Thr	Thr	Ser	Gly	Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu		
				1685					1690					1695			
Thr	Lys	Ala	Pro	Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	Pro	Ala	Gly	Thr		
				1700				1705						1710			
Leu	Pro	Ser	Glu	Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	Ser	Leu	Thr	Gln		
				1715				1720					1725				
Ser	Gln	Gln	Pro	Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu		
				1730			1735					1740					
Ser	Pro	Glu	Xaa	Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met		
				1745			1750				1755				1760		
Ala	Ala	Pro	Thr	Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly		
				1765					1770					1775			
Val	Ser	Gln	Val	Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala		
				1780				1785						1790			
Gly	Val	Phe	Lys	Met	Gly	Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly		
				1795				1800					1805				
Ala	Gln	Lys	Glu	Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His		
				1810			1815					1820					
Phe	Glu	Ser	Ser	Thr	Ser	Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro		
				1825			1830				1835				1840		
Glu	Ser	Thr	Leu	Val	Lys	Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly		
				1845					1850					1855			
Ile	Ser	Ser	Asp	Val	Pro	Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu		
				1860					1865					1870			
Ala	Lys	Ser	Asp	Thr	Gly	Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val		

1875	1880	1885
Thr Thr Thr Ala Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu		
1890	1895	1900
Asp Lys Ile Thr Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro		
1905	1910	1915
Phe Met Asp Leu Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys		
1925	1930	1935
Glu Lys Pro Glu Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser		
1940	1945	1950
Asp Pro Glu Ala Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly		
1955	1960	1965
Ser Pro His Ser Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln		
1970	1975	1980
Asn Leu Ser Gln Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser		
1985	1990	1995
Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu		
2005	2010	2015
Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser		
2020	2025	2030
Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val		
2035	2040	2045
Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg		
2050	2055	2060
Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser		
2065	2070	2075
Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser		
2085	2090	2095
Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn		
2100	2105	2110
Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser		
2115	2120	2125
Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile		
2130	2135	2140
Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn		
2145	2150	2155
Thr Val Gly Ala Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro		
2165	2170	2175
Ala Met Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys		
2180	2185	2190
Leu Val Asp Asn Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg		
2195	2200	2205
Gly Ser Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys		
2210	2215	2220
Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly		
2225	2230	2235
Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe		
2245	2250	2255
Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro		
2260	2265	2270
Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu		
2275	2280	2285
Gly Gln Phe Gln Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile		
2290	2295	2300
Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg		
2305	2310	2315
Thr Thr		2320

<210> 35
 <211> 6558
 <212> DNA
 <213> Homo sapiens

<400> 35

atggacaagg	acagccgtgg	ggcggccgcg	accactacca	ccactgagca	ccgcttcttc	60
cgccggagcg	tcctctgcga	ctccaatgcc	actgcactgg	agcttcccgg	ccttctctct	120
tccttgcccc	agcccagcat	ccccgcggct	gtcccgcaga	gtgctccacc	ggagccccac	180
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gcccgccttg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	300
agcaaagacc	gcccagtgct	ccagcctagc	cttggtggga	gcaaagagga	gccgcccgcg	360
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaca	aggtctggac	540
actgaaacca	ccgtggaagt	cgctggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgacactctg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	780
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	840
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcgg	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctg	agatggctac	atctgaatat	1080
ccttactcgg	agtgccaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacctatg	cttcttccaa	1260
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaaggatg	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacctcagat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1800
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcagc	cccatggggt	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	1980
cagccatcct	caagtagctt	aacaggggtt	tcattctccc	aacctataca	acatcctcag	2040
cagcagcagg	gaatacagca	gacagcccct	cctcaacaga	cagtgcagta	ttcactttca	2100
cagacatcaa	cctccagtg	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2160
caagtcttgc	ctcaagtatc	agctggaaaa	cagcttccag	tttcccagcc	agtaccaact	2220
atccaaggcg	aacctcagat	cccagttgcg	acacaacctc	cggttgttcc	agtcactctc	2280
ggtgctcatt	tccttccagt	gggacagccg	ctccctactc	ccttgctccc	tcagtacctc	2340
gtctctcaga	ttcccatatc	aactcctcat	gtgtctacgg	ctcagacagg	tttctcatcc	2400
cttcccatca	caatggcagc	tggcattact	cagcctctgc	tcacgttggc	ttcatctgct	2460
acaacagctg	cgatcccggg	ggtatcaact	gtggttccca	gtcagcttcc	aaccttctctg	2520
cagcctgtga	ctcagctgcc	aagtcagggt	caccacagc	tcctacaacc	agcagttcag	2580
tccatgggaa	taccagatca	ccttggaaca	gctgctgagg	ttccactttc	ctctggagat	2640
gttctgtacc	agggcttccc	acctcgactg	ccaccacagt	acccaggaga	ttcaaatatt	2700
gctccctctt	ccaacgtggc	ttctgtttgc	atccattcta	cagtcctawc	ccctcccattg	2760
ccgacagaag	tactggctac	acctgggtac	tttcccacag	tggtagcagcc	ttatgtggaa	2820
tcaaatcttt	tagttcctat	gggtggtgta	ggaggacagg	ttcaagtgtc	ccagccagga	2880
gggagtttag	cacaagcccc	cactacatcc	tcccagcaag	cagttttgga	gagtactcag	2940
ggagtctctc	aggttgctcc	tgcagagcca	gttgtagtag	cacagcccca	agctacccag	3000
ccgaccactt	tggcttctct	tgtagacagt	gcacattcag	atgttgcttc	aggtatgagt	3060
gatggcaatg	agaacgtccc	atcttccagt	ggaaggcatg	aaggaagaac	tacaaaacgg	3120
cattaccgaa	aatctgtaag	gagtcgctct	cgacatgaaa	aaacttcacg	cccaaaatta	3180
agaattttga	atgtttcaaa	taaaggagac	cgagtagtag	aatgtcaatt	agagactcat	3240
aataggaaaa	tggttacatt	caaatttgac	ctagatgggtg	acaaccccga	ggagatagca	3300
acaattattg	tgaacaatga	ctttattcta	gcaatagaga	gagagtctgt	tgtggatcaa	3360
gtgcgagaaa	ttattgaaaa	agctgatgaa	atgctcagtg	aggatgtcag	tgtggaacca	3420
gagggtgatc	agggattgga	gagtcataca	ggaaaggatg	actatggctt	ttcagggtct	3480
cagaaattgg	aaggagagtt	caaacaacca	attcctgcgt	cttccatgcc	acagcaaata	3540
ggcatttcta	ccagttcttt	aactcaagtt	gttcattctg	cgggaaggcg	gtttatagtg	3600
agtcctgtgc	cagaaagccg	attacgagaa	tcaaaagttt	tccccagtga	aataacagat	3660
acagttgctg	cctctacage	tcagagccct	ggaatgaact	tgtctcactc	tgcacatcc	3720

cttagtctac	aacaggcctt	ttctgaactt	agacgtgcc	aatgacaga	aggacccaay	3780
acagcaoctc	caaacttttag	tcatacagga	ccaacatttc	cagtagtacc	tcctttctta	3840
agtagcattg	ctggagtgccc	aaccacagca	gcagccacag	caccagtccc	tgcaacaagc	3900
agccctccta	atgacatttc	cacatcagta	attcagtctg	aggttacagt	gcccactgaa	3960
gaggggattg	ctggagttgc	caccagcaca	ggtgtggtaa	cttcagggtg	tctccccata	4020
ccacctgtgt	ctgaatcacc	agtactttcc	agcgtagttt	caagtatcac	aatacctgca	4080
gttgtctcaa	tatctactac	atccccgtca	cttcaagtc	ccacatccac	atctgagatc	4140
gttggttcta	gtacagcact	gtatccttca	gtaacagttt	cagcaacttc	agcctctgca	4200
ggggggcagta	ctgctacccc	aggctcctaag	cctccagctg	tagtatctca	gcaggcagca	4260
ggcagcacta	ctgtggggagc	cacattaaca	tcagtttcta	ccaccacttc	attcccaagc	4320
acagcttcac	agctgtccat	tcagcttagc	agcagtactt	ctactcctac	tttagctgaa	4380
accgtggtag	ttagcgcaca	ctcactagat	aagacatctc	atagcagtac	aactggattg	4440
gctttctccc	tctctgcacc	atcttctctt	tcctctcctg	gagcaggagt	gtctagttat	4500
atttctcagc	ctgggtgggt	gcctcctttg	gtcattccat	cagtgatagc	ttctactcct	4560
attcttcccc	aagcagcagg	acctactttt	acacctttat	taccccaagt	acctagtatc	4620
ccacccttgg	tacagcctgt	tgccaatgtg	cctgtgttac	agcagacact	aattcatagt	4680
cagcctcaac	cagcttttgc	tcccaaccag	ccccatactc	attgtcctga	agtagattct	4740
gatacacaac	ccaaagctcc	tggaattgat	gacataaaga	ctctagaaga	aaagctgcgg	4800
tctctgttca	gtgaacacag	ctcatctgga	gctcagcatg	cctctgtctc	actggagacc	4860
tcactagtca	tagagagcac	tgtcacacca	ggcatcccaa	ctactgctgt	tgaccaaacg	4920
aaactcctga	cttctaccac	aagtacttgc	ttaccaccaa	ccaatttacc	actaggaaca	4980
gttgcttttg	cagttacacc	agtgggtcaca	cctgggcaag	tttctacccc	agtcagcact	5040
actacatcag	gagtgaacc	tggaactgct	ccctccaagc	cacctctaac	taaggctccg	5100
gtgctgccag	tgggtactga	acttccagca	ggtactctac	ccagcgagca	gctgccacct	5160
tttccaggac	cttctctaac	ccagtcctag	caacctctag	aggatcttga	tgctcaattg	5220
agaagaacac	ttagtccaga	gatkatcaca	gtgactcttg	cggttgggtc	tgtgtccatg	5280
gcgggtccaa	cagcaatcac	agaagcagga	acacagcctc	agaagggtgt	ttctcaagtc	5340
aaagaaggcc	ctgtcctagc	aactagttca	ggagctgggtg	tttttaagat	gggacgattt	5400
caggtttctg	ttgcagcaga	cgggtgcccg	aaagagggtg	aaaataagtc	agaagatgca	5460
aagtctgttc	attttgaatc	cagcacctca	gagtcctcag	tgctatcaag	tagtagtcca	5520
gagagtacct	tggtgaaacc	agagccgaat	ggcataacca	tccttggtat	ctcttcagat	5580
gtgccagaga	gtgcccacaa	aactactgcc	tcagaggcaa	agtcagacac	tgggcagcct	5640
accaagggtg	gacgttttca	ggtgacaact	acagcaaaca	aagtgggtcg	tttctctgta	5700
tcaaaaaactg	aggacaagat	cactgacaca	aagaaagaag	gaccagtggc	atctcctcct	5760
tttatggatt	tggaacaagc	tgttcttctt	gctgtgatac	caaagaaaga	gaagcctgaa	5820
ctgtcagagc	cttcacatct	aaatgggccc	tcttctgacc	cggaggccgc	ttttttaagt	5880
agggatgtgg	atgatggttc	cggtagtcca	cactcgcccc	atcagctgag	ctcaaagagc	5940
cttcctagcc	agaatctaag	tcaaagcctt	agtaattcat	ttaactcctc	ttacatgagt	6000
agcgacaatg	agtcagatat	cgaagatgaa	gacttaagat	tagagctgcg	acgactacga	6060
gataaacatc	tcaaagagat	tcaggacctg	cagagtcgcc	agaagcatga	aattgaatct	6120
ttgtatacca	aactgggcaa	ggtgccccct	gctgttatta	ttcccccagc	tgctcccctt	6180
tcaggagagaa	gacgacgacc	cactaaaagc	aaaggcagca	aatctagtgc	aagcagttcc	6240
ttgggggaata	aaagccccc	gcttttcaggt	aaacctgtctg	gtcagagtgc	agcttcagtc	6300
ttgcaccccc	agcagaccct	ccacctctct	ggcaacatcc	cagagtccgg	gcagaatcag	6360
ctgtttacgc	cccttaagcc	atctccctcc	agtgacaacc	tctattcagc	cttcaccagt	6420
gatgggtgcca	tttcagtacc	aagcctttct	gctccaggtc	aaggaataaa	gcaaccatca	6480
tcgtccaaaa	acaataaaat	ggagatgttg	ccatacctgg	gacaaaagcc	tgtaaggcgg	6540
ggttgggaga	ctagctga					6558

<210> 36
 <211> 2185
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2185)
 <223> Xaa = Any Amino Acid

<400> 36
 Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu

1	5	10	15
His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala			
20	25	30	
Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro			
35	40	45	
Ala Ala Val Pro Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr			
50	55	60	
Val Thr Ala Thr Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala			
65	70	75	80
Ala Ala Pro Gly Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val			
85	90	95	
Pro Ser Ser Thr Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val			
100	105	110	
Gly Ser Lys Glu Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly			
115	120	125	
Ser Ala Lys Glu Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile			
130	135	140	
Glu Glu Leu Glu Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe			
145	150	155	160
Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr			
165	170	175	
Lys Gly Leu Asp Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu			
180	185	190	
Gln Asp Arg Lys Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu			
195	200	205	
Ala Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr			
210	215	220	
Asp Ser Trp Glu Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val			
225	230	235	240
Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe			
245	250	255	
Lys Val Met Lys Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu			
260	265	270	
Lys Gly Leu Gln Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg			
275	280	285	
Asp Leu Lys Cys Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val			
290	295	300	
Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala			
305	310	315	320
Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu			
325	330	335	
Glu Lys Tyr Asp Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met			
340	345	350	
Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala			
355	360	365	
Ala Gln Ile Tyr Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe			
370	375	380	
Asp Lys Val Ala Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile			
385	390	395	400
Arg Gln Asn Lys Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His			
405	410	415	
Ala Phe Phe Gln Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu			
420	425	430	
Asp Asp Gly Glu Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp			
435	440	445	
Ile Lys Lys Leu Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe			
450	455	460	
Ser Phe Asp Leu Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met			
465	470	475	480
Val Glu Ser Gly Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys			
485	490	495	
Ala Ile Lys Asp Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg			
500	505	510	

Gln 515	Leu 530	Val 535	Arg 550	Glu 555	Glu 560	Gln 570	Glu 575	Lys 580	Lys 585	Lys 590	Gln 595	Glu 600	Glu 605	Ser 610	Ser 615	Ser 620
Leu 545	Lys 550	Gln 555	Gln 565	Val 570	Glu 575	Gln 580	Ser 585	Ser 590	Ala 595	Ser 600	Gln 605	Thr 610	Gly 615	Ile 620	Lys 625	Ser 630
Gln 540	Leu 545	Pro 550	Ser 555	Ala 560	Ser 565	Thr 570	Gly 575	Ile 580	Pro 585	Thr 590	Ala 595	Ser 600	Thr 605	Thr 610	Ser 615	Ser 620
Ala 560	Ser 565	Val 570	Ser 575	Thr 580	Gln 585	Val 590	Glu 595	Pro 600	Glu 605	Glu 610	Pro 615	Glu 620	Ala 625	Asp 630	Gln 635	Ser 640
His 570	Gln 575	Gln 580	Leu 585	Gln 590	Tyr 595	Gln 600	Gln 605	Pro 610	Ser 615	Ile 620	Ser 625	Val 630	Leu 635	Ser 640	Asp 645	Ser 650
Gly 580	Thr 585	Val 590	Asp 595	Ser 600	Gly 605	Gln 610	Gly 615	Ser 620	Ser 625	Val 630	Phe 635	Thr 640	Glu 645	Ser 650	Arg 655	Ser 660
Val 590	Ser 595	Ser 600	Gln 605	Gln 610	Thr 615	Val 620	Ser 625	Tyr 630	Gly 635	Ser 640	Gln 645	His 650	Glu 655	Gln 660	Ala 665	Ser 670
His 600	Ser 605	Thr 610	Gly 615	Thr 620	Val 625	Pro 630	Gly 635	His 640	Ile 645	Pro 650	Ser 655	Thr 660	Val 665	Gln 670	Ala 675	Ser 680
Gln 610	Ser 615	Gln 620	Pro 625	His 630	Gly 635	Val 640	Tyr 645	Pro 650	Pro 655	Ser 660	Ser 665	Val 670	Ala 675	Gln 680	Gly 685	Ser 690
Gln 620	Ser 625	Gln 630	Gly 635	Gln 640	Pro 645	Ser 650	Ser 655	Ser 660	Ser 665	Leu 670	Thr 675	Gly 680	Val 685	Ser 690	Ser 695	Ser 700
Ser 630	Gln 635	Pro 640	Ile 645	Gln 650	His 655	Pro 660	Gln 665	Gln 670	Gln 675	Gln 680	Gly 685	Ile 690	Gln 695	Gln 700	Thr 705	Ser 710
Ala 640	Pro 645	Pro 650	Gln 655	Gln 660	Thr 665	Val 670	Gln 675	Tyr 680	Ser 685	Leu 690	Ser 695	Gln 700	Thr 705	Ser 710	Thr 715	Ser 720
Ser 650	Ser 655	Glu 660	Ala 665	Thr 670	Thr 675	Ala 680	Gln 685	Pro 690	Val 695	Ser 700	Gln 705	Pro 710	Gln 715	Ala 720	Pro 725	Ser 730
Gln 660	Val 665	Leu 670	Pro 675	Gln 680	Val 685	Ser 690	Ala 695	Gly 700	Lys 705	Gln 710	Leu 715	Pro 720	Val 725	Ser 730	Gln 735	Ser 740
Pro 670	Val 675	Pro 680	Thr 685	Ile 690	Gln 695	Gly 700	Glu 705	Pro 710	Gln 715	Ile 720	Pro 725	Val 730	Ala 735	Thr 740	Gln 745	Ser 750
Pro 680	Ser 685	Val 690	Val 695	Pro 700	Val 705	His 710	Ser 715	Gly 720	Ala 725	His 730	Phe 735	Leu 740	Pro 745	Val 750	Gly 755	Ser 760
Gln 690	Pro 695	Leu 700	Pro 705	Thr 710	Pro 715	Leu 720	Leu 725	Pro 730	Gln 735	Tyr 740	Pro 745	Val 750	Ser 755	Gln 760	Ile 765	Ser 770
Pro 700	Ile 705	Ser 710	Thr 715	Pro 720	His 725	Val 730	Ser 735	Thr 740	Ala 745	Gln 750	Thr 755	Gly 760	Phe 765	Ser 770	Ser 775	Ser 780
Leu 710	Pro 715	Ile 720	Thr 725	Met 730	Ala 735	Ala 740	Gly 745	Ile 750	Thr 755	Gln 760	Pro 765	Leu 770	Leu 775	Thr 780	Thr 785	Leu 790
Ala 720	Ser 725	Ser 730	Ala 735	Thr 740	Thr 745	Ala 750	Ala 755	Ile 760	Pro 765	Gly 770	Val 775	Ser 780	Thr 785	Val 790	Val 795	Val 800
Pro 730	Ser 735	Gln 740	Leu 745	Pro 750	Thr 755	Leu 760	Leu 765	Gln 770	Pro 775	Val 780	Thr 785	Gln 790	Leu 795	Leu 800	Pro 805	Ser 810
Gln 740	Val 745	His 750	Pro 755	Gln 760	Leu 765	Leu 770	Gln 775	Pro 780	Ala 785	Val 790	Gln 795	Ser 800	Met 805	Gly 810	Ile 815	Ser 820
Pro 750	Ala 755	Asn 760	Leu 765	Gly 770	Gln 775	Ala 780	Ala 785	Glu 790	Val 795	Pro 800	Leu 805	Ser 810	Ser 815	Gly 820	Asp 825	Ser 830
Val 760	Leu 765	Tyr 770	G													

2020	2025	2030
Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val		
2035	2040	2045
Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg		
2050	2055	2060
Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser		
2065	2070	2075
Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser		
2085	2090	2095
Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn		
2100	2105	2110
Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser		
2115	2120	2125
Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile		
2130	2135	2140
Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Ile Lys Gln Pro Ser		
2145	2150	2155
Ser Ser Lys Asn Asn Lys Met Glu Met Leu Pro Tyr Leu Gly Gln Lys		
2165	2170	2175
Pro Val Lys Ala Gly Trp Glu Thr Ser		
2180	2185	

<210> 37
 <211> 2769
 <212> DNA
 <213> Homo sapiens

<400> 37						
atggacaagg	acagccgtgg	ggcggccg	accactacca	ccactgagca	ccgcttcttc	60
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccgg	ccttcctctt	120
tccctgcccc	agcccagcat	ccccgcggt	gtcccgcaga	gtgctccacc	ggagccccac	180
cgggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gccgccccctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	300
agcaaagacc	gcccagtgct	ccagcctagc	cttgtgggga	gcaaagagga	gccgcccggc	360
gcgagaagtg	gcagcgccgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaca	aggtctggac	540
actgaaacca	ccgtggaagt	cgcctggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaattatt	660
gttagattttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	780
atcaaagtct	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	840
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcggt	ctggcaacct	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctg	agatggctac	atctgaatat	1080
ccttactcgg	agtgcacaaa	tgtgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1260
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaaggatga	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1800
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	1980
cagccatcct	caagtagctt	aacagggggt	tcactctccc	aaccataaca	acatcctcag	2040
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2100

cagacatcaa	cctccagtga	ggccactact	gcacagccag	tgagtcagcc	tcaagctcca	2160
caagtcttgc	ctcaagtatc	agctggaaaa	cagcttccag	tttcccagcc	agtaccaact	2220
atccaaggcg	aacctcagat	cccagttgcg	acacaaccct	cggttggtcc	agtccactct	2280
ggtgctcatt	tccttccagt	gggacagccg	ctccctactc	ccttgctccc	tcagtaccct	2340
gtctctcaga	ttcccatatc	aactcctcat	gtgtctacgg	ctcagacagg	tttctcatcc	2400
cttcccatca	caatggcagc	tggcattact	cagcctctgc	tcacgttggc	ttcatctgct	2460
acaacagctg	cgatccccggg	ggtatcaact	gtggttccta	gtcagcttcc	aaccttctg	2520
cagcctgtga	ctcagctgcc	aagtcagggt	caccacagc	tcctacaacc	agcagttcag	2580
tccatgggaa	taccagctaa	ccttggacaa	gctgctgagg	ttccactttc	ctctggagat	2640
gttctgtacc	agggcttccc	acctcgactg	ccaccacagt	accaggaga	ttcaaattatt	2700
gctccctctt	ccaacgtggc	ttctgtttgc	atccattcta	cagtcctawc	ccctataacct	2760
tctgcataa						2769

<210> 38
 <211> 922
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(922)
 <223> Xaa = Any Amino Acid

<400> 38

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70				75					80	
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85					90					95		
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105				110			
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150				155					160	
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165					170						175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
	195						200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235				240	
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245					250						255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260					265					270			
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
	275					280						285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala

305					310					315				320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr
				325						330				335
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys
			340					345					350	
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn
		355					360					365		
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser
		370				375					380			
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys
		385			390					395				400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn
			405						410					415
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu
			420				425						430	
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu
		435					440					445		
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu
	450				455						460			
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu
	465				470					475				480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala
			485						490					495
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln
		500						505					510	
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser
		515					520					525		
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile
	530					535					540			
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr
	545				550					555				560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp
			565						570					575
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser
			580					585					590	
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser
	595					600					605			
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln
	610					615					620			
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln
	625				630					635				640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln
			645						650					655
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser
		660					665					670		
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln
	675						680					685		
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser
	690					695					700			
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala
	705				710					715				720
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu	Pro	Val	Ser
			725						730					735
Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro	Val	Ala	Thr
		740					745					750		
Pro	Ser	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe	Leu	Pro	Val	Gly
	755					760					765			
Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro	Val	Ser	Gln
	770					775					780			
Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser
	785				790					795				800
Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr
				805					810					815

Ala Ser Ser Ala Thr Thr Ala Ala Ile Pro Gly Val Ser Thr Val Val
820 825 830
Pro Ser Gln Leu Pro Thr Leu Leu Gln Pro Val Thr Gln Leu Pro Ser
835 840 845
Gln Val His Pro Gln Leu Leu Gln Pro Ala Val Gln Ser Met Gly Ile
850 855 860
Pro Ala Asn Leu Gly Gln Ala Ala Glu Val Pro Leu Ser Ser Gly Asp
865 870 875 880
Val Leu Tyr Gln Gly Phe Pro Pro Arg Leu Pro Pro Gln Tyr Pro Gly
885 890 895
Asp Ser Asn Ile Ala Pro Ser Ser Asn Val Ala Ser Val Cys Ile His
900 905 910
Ser Thr Val Leu Xaa Pro Ile Pro Ser Ala
915 920

<210> 39
<211> 6510
<212> DNA
<213> Homo sapiens

<400> 39
atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc 60
cgccggagcg tcattctgcga ctccaatgcc actgcactgg agcttcccgg ccttccctctt 120
tccctgcccc agcccagcat ccccgcggt gtcccgcaga gtgctccacc ggagccccac 180
cgggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct 240
gccgccctg gggaaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 300
agcaaagacc gccagtgct ccagcctagc cttgtgggga gcaaagagga gccgcgcgcg 360
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
ctcaagtttg acatcgaaat cggcagagcg tcccttaaga cgggtctacaa aggtctggac 540
actgaaacca ccgtggaagt cgctgggtgt gaactgcagg atcgaaaatt aacaaagtct 600
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgc atgttttggtg 720
actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 780
atcaaagttc taagaagctg gtgccgtcag atccttaaag gtcttcagtt tcttcatact 840
cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
actggctcag tcaagattgg agacctcggc ctggcaaccc tgaagcgggc ttcttttgcc 960
aagagtgtga taggtacccc agagttcatg gccctgaga tgtatgagga gaaatatgat 1020
gaatccgttg acgtttatgc ttttgggatg tgcattgctg agatggctac atctgaatat 1080
ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1140
ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1200
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1260
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1380
gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1500
agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcggg gagcaagaa 1560
aaaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1620
acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccatttca 1680
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
cagtaccagc aacctagtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1800
tcctctgtct tcacagaatc tcgagtgagc agccaacaga cagtttcata tggttcccaa 1860
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
cagtctcagc cccatggggg atattccacc tcaagtgtgg cacaggggca gagccagggt 1980
cagccatcct caagtagctt aacaggggtt tcattctccc aaccataca acatcctcag 2040
cagcagcagg gaatacagca gacagccctt cctcaacaga cagtgcagta ttcactttca 2100
cagacatcaa cctccagtga gcccactact gcacagccag tgagtcagcc tcaagctcca 2160
caagtcttgc ctcaagtatc agctggaaaa cagggtcttc cacctcgact gccaccacag 2220
taccaggag attcaaatat tgctccctct tccaacgtgg cttctgtttg catccattct 2280
acagtcctaw cccctcccat gccgacagaa gtactggcta cacctgggta ctttcccaca 2340
gtggtgcagc cttatgtgga atcaaattct ttagttccta tgggtgggtg aggaggacag 2400
gttcaagtgt cccagccagg agggagttta gcacaagccc ccactacatc ctcccagcaa 2460
gcagttttgg agagtactca gggagtctct cagggttgctc ctgcagagcc agttgcagta 2520

gcacagcccc	aagctaccca	gccgaccact	ttggcttcct	ctgtagacag	tgacacattca	2580
gatgttgctt	caggtatgag	tgatggcaat	gagaacgtcc	catcttccag	tggaaggcat	2640
gaaggaagaa	ctacaaaacg	gcattaccga	aaatctgtaa	ggagtcgctc	tcgacatgaa	2700
aaaacttcac	gccccaaaatt	aagaattttg	aatgtttcaa	ataaaggaga	ccgagtagta	2760
gaatgtcaat	tagagactca	taataggaaa	atggttacat	tcaaatttga	cctagatggt	2820
gacaaccccc	aggagatagc	aacaattatg	gtgaacaatg	actttattct	agcaatagag	2880
agagagtcgt	ttgtggatca	agtgcgagaa	attattgaaa	aagctgatga	aatgctcagt	2940
gaggatgtca	gtgtggaacc	agagggatg	cagggtattg	agagtctaca	aggaaaggat	3000
gactatggct	tttcagggttc	tcagaaattg	gaaggagagt	tcaaacaacc	aattcctgcg	3060
tcttccatgc	cacagcaaat	aggcattcct	accagttctt	taactcaagt	tgttcattct	3120
gcgggaaggc	ggtttatagt	gagtcctgtg	ccagaaagcc	gattacgaga	atcaaaagtt	3180
ttccccagtg	aaataacaga	tacagttgct	gcctctacag	ctcagagccc	tggaatgaac	3240
ttgtctcact	ctgcatcatc	ccttagtcta	caacaggcct	tttctgaact	tagacgtgcc	3300
caaatgacag	aaggacccaa	yacagcacct	ccaaacttta	gtcatacagg	accaacattt	3360
ccagtagtac	ctcctttctt	aagtagcatt	gctggagtc	caaccacagc	agcagccaca	3420
gcaccagtc	ctgcaacaag	cagccctcct	aatgacattt	ccacatcagt	aattcagttc	3480
gaggttacag	tgcccactga	agaggggatt	gctggagttg	ccaccagcac	aggtgtggta	3540
acttcagggtg	gtctccccat	accacctgtg	tctgaatcac	cagtactttc	cagcgtagtt	3600
tcaagtatca	caatacctgc	agttgtctca	atatctacta	catccccgtc	acttcaagtc	3660
cccacatcca	catctgagat	cgttgtttct	agtacagcac	tgtatccttc	agtaacagtt	3720
tcagtaactt	cagcctctgc	agggggcagt	actgctaccc	caggtectaa	gcctccagct	3780
gtagtatctc	agcaggcgagc	aggcagcact	actgtgggag	ccacattaac	atcagtttct	3840
accaccactt	cattcccaag	cacagcttca	cagctgtcca	ttcagcttag	cagcagttct	3900
tctactccta	ctttagctga	aaccgtggta	gttagcgcac	actcactaga	taagacatct	3960
catagcagta	caactggatt	ggctttctcc	ctctctgcac	catcttctct	ttctctctct	4020
ggagcaggag	tgtctagtta	tatttctcag	cctgggtggg	tgcatccttt	ggtcattcca	4080
tcagtgatag	cttctactcc	tattcttccc	caagcagcag	gacctacttc	tacaccttta	4140
ttaccccaag	tacctagtat	cccacccttg	gtacagcctg	ttgccaatgt	gcctgctgta	4200
cagcagacac	taattcatag	tcagcctcaa	ccagctttgc	ttcccaacca	gccccatact	4260
cattgtcctg	aagtagattc	tgatacacaa	cccaaagctc	ctggaattga	tgacataaag	4320
actctagaag	aaaagctgcg	gtctctgttc	agtgaacaca	gctcatctgg	agctcagcat	4380
gcctctgtct	cactggagac	ctcactagtc	atagagagca	ctgtcacacc	aggcatccca	4440
actactgctg	ttgcaccaag	caaactcctg	acttctacca	caagtacttg	cttaccacca	4500
accaattttac	cactaggaac	agttgctttg	ccagttacac	cagtggtcac	acctggggcaa	4560
gtttctaccc	cagtcagcac	tactacatca	ggagtgaaac	ctggaactgc	tccctccaag	4620
ccacctctaa	ctaaggctcc	ggtgctgcc	gtgggtactg	aacttccagc	agggtactcta	4680
cccagegagc	agctgccacc	ttttccagga	ccttctctaa	cccagtccca	gcaacctcta	4740
gaggatcttg	atgctcaatt	gagaagaaca	cttagtccag	agatkatcac	agtgaactct	4800
gcgggttggtc	ctgtgtcctc	ggcgggtcca	acagcaatca	cagaagcagg	aacacagcct	4860
cagaagggtg	tttctcaagt	caaagaaggc	cctgtcctag	caactagttc	aggagctggt	4920
gtttttaaga	tgggacgatt	tcagggtttct	gttgacgag	acggtgcccc	gaaagaggggt	4980
aaaaataagt	cagaagatgc	aaagtctggt	cattttgaat	ccagcacctc	agagtcctca	5040
gtgctatcaa	gtagtagtcc	agagagtacc	ttgggtgaaac	cagagccgaa	tggcataacc	5100
atccctggta	tctcttcaga	tgtgccagag	agtgccacca	aaactactgc	ctcagaggca	5160
aagtgcagaca	ctgggcagcc	taccaagggt	ggagcttttc	aggtgacaac	tacagcaaac	5220
aaagtgggtc	gtttctctgt	atcaaaaact	gaggacaaga	tactgacac	aaagaaagaa	5280
ggaccagtg	catctcctcc	ttttatggat	ttggaacaag	ctgttcttcc	tgctgtgata	5340
ccaaagaaag	agaagcctga	actgtcagag	ccttcacatc	taaatgggcc	gtcttctgac	5400
ccggaggccg	cttttttaag	tagggatgtg	gatgatggtt	ccggtagtcc	acactcgccc	5460
catcagctga	gctcaaagag	ccttctctagc	cagaatctaa	gtcaaagcct	tagtaattca	5520
tttaactcct	cttacatgag	tagcgacaat	gagtcagata	tcgaagatga	agacttaaaag	5580
ttagagctgc	gacgactacg	agataaacat	ctcaaagaga	ttcaggacct	gcagagtcgc	5640
cagaagcatg	aaattgaatc	tttgtatacc	aaactgggca	aggtgcccc	tgctgttatt	5700
attccccccag	ctgctccctc	ttcagggaga	agacgacgac	ccactaaaag	caaaggcagc	5760
aaatctagtc	gaagcagttc	cttgggggat	aaaagccccc	agctttcagg	taacctgtct	5820
ggtcagagtg	cagcttcagt	cttgaccccc	cagcagaccc	tccaccctcc	tggaacatc	5880
ccagagtcgg	ggcagaatca	gctgttacag	ccccttaagc	catctccctc	cagtgacaac	5940
ctctattcag	ccttcaccag	tgatgggtgc	atttcagtac	caagcctttc	tgctccaggt	6000
caaggaacca	gcagcacaaa	cactgttggtg	gcaacagtga	acagccaagc	cgcccaagct	6060
cagcctcctg	ccatgacgtc	cagcaggaag	ggcacattca	cagatgactt	gcacaagttg	6120
gtagacaatt	gggcccagaga	tgccatgaat	ctctcaggca	ggagaggaag	caaagggcac	6180
atgaattatg	agggccctgg	aatggcaagg	aagttctctg	cacctgggca	actgtgcac	6240
tccatgacct	cgaacctggg	tggtctctg	cccctctctg	cagcatcagc	tacctctcta	6300

ggtcacttca	ccaagtctat	gtgcccccca	cagcagtatg	gctttccagc	taccccattt	6360
ggcgctcaat	ggagtgggac	gggtgggcca	gcaccacagc	cacttggcca	gttccaacct	6420
gtgggaactg	cctccttgca	gaatttcaac	atcagcaatt	tcgagaaatc	catcagcaac	6480
ccccaggct	ccaacctgcg	gaccacttag				6510

<210> 40
 <211> 2169
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2169)
 <223> Xaa = Any Amino Acid

<400> 40

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
			35				40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
	65				70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85					90						95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
	145				150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
	195						200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
	225					230				235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260					265						270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275					280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290					295					300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
	305				310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala

Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
370						375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
				405					410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420					425					430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435						440				445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450					455					460				
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
				485					490					495	
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
			500						505				510		
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
	530					535					540				
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
				565					570					575	
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
		595				600					605				
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala
	610					615					620				
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala
625					630					635					640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly
				645					650					655	
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser
		660						665				670			
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr
		675					680					685			
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
	690					695					700				
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
705					710					715					720
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg
				725					730					735	
Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn
			740					745					750		
Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro
		755					760					765			
Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro
	770					775					780				
Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln
785					790					795					800
Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr
				805					810					815	
Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val
			820					825					830		
Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro
		835					840					845			
Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser
	850					855					860				

Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His
865					870					875					880
Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg
				885					890						895
Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val
			900					905					910		
Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn
		915					920					925			
Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu
	930					935					940				
Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu
945					950					955					960
Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp
				965					970						975
Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly
			980					985					990		
Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln
		995					1000					1005			
Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro
	1010					1015					1020				
Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser
1025					1030					1035					1040
Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg
				1045					1050						1055
Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser
			1060					1065					1070		
Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu
		1075					1080					1085			
Ser	Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu
	1090					1095					1100				
Gly	Pro	Asn	Thr	Ala	Pro	Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	
1105					1110				1115						1120
Pro	Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr
				1125					1130					1135	
Ala	Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp
			1140					1145					1150		
Ile	Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu
		1155				1160						1165			
Gly	Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly
	1170					1175				1180					
Leu	Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val
1185					1190					1195					1200
Ser	Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro
			1205						1210						1215
Ser	Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr
			1220					1225					1230		
Ala	Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly
		1235					1240				1245				
Gly	Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln
	1250					1255					1260				
Gln	Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser
1265					1270				1275						1280
Thr	Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu
			1285					1290						1295	
Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser
			1300					1305					1310		
Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala
			1315				1320						1325		
Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val
		1330				1335					1340				
Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro
1345					1350				1355						1360
Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr

[illegible]

Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu
 1875 1880 1885
 Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala
 1890 1895 1900
 Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser
 1905 1910 1915 1920
 Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser
 1925 1930 1935
 Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln
 1940 1945 1950
 Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu
 1955 1960 1965
 Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala
 1970 1975 1980
 Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly
 1985 1990 1995 2000
 Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln
 2005 2010 2015
 Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr
 2020 2025 2030
 Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala
 2035 2040 2045
 Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu
 2050 2055 2060
 Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile
 2065 2070 2075 2080
 Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser
 2085 2090 2095
 Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln
 2100 2105 2110
 Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly
 2115 2120 2125
 Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala
 2130 2135 2140
 Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn
 2145 2150 2155 2160
 Pro Pro Gly Ser Asn Leu Arg Thr Thr
 2165

<210> 41
 <211> 6099
 <212> DNA
 <213> Homo sapiens

<400> 41
 atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc 60
 cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttccctctt 120
 tccctgcccc agcccagcat ccccgcggt gtcgccgaga gtgctccacc ggagccccac 180
 cgggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct 240
 gccgcccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 300
 agcaaagacc gcccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcccgcg 360
 gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
 caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
 ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggctctaaa aggtctggac 540
 actgaaacca ccgtggaagt cgccctggtgt gaactgcagg atcgaaaatt aacaaagtct 600
 gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
 gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 720
 actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgaatgaag 780
 atcaaagttc taagaagctg gtgccgtcag atccttaaag gtcttcagtt tcttcatact 840
 cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
 actggctcag tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc 960
 aagagtgtga taggtacccc agagttcatg gcccttgaga tgtatgagga gaaatatgat 1020
 gaatccgttg acgtttatgc ttttgggatg tgcattgctt agatggctac atctgaatat 1080

ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1140
ccagccagtt	ttgacaaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttctttccaa	1260
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaatttaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtagtgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1560
aaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacctcagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1800
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	tacctcttac	tgtccaagca	1920
cagtctcagc	cccatgggggt	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	1980
cagccatcct	caagtagctt	aacaggggtt	tcattcttccc	aacctataca	acatcctcag	2040
cagcagcagg	gaatacagca	gacagcccct	cctcaacaga	cagtgcagta	ttcactttca	2100
cagacatcaa	cctccagtga	ggccactact	gcacagccag	tgagtccagc	tcaagctcca	2160
caagtcttgc	ctcaagtatc	agctggaaaa	cagggtcttc	cacctcgact	gccaccacag	2220
taccaggagg	attcaaatat	tgctccctct	tccaacgtgg	cttctgtttg	catccattct	2280
acagtcctaw	ccccctccat	gccgacagaa	gtactgggta	cacctgggta	ctttcccaca	2340
gtgggtgcagc	cttatgtgga	atcaaactct	ttagtctcta	tgggtgggtgt	aggaggacag	2400
gttcaagtgt	cccagccagg	agggagttaa	gcacaagccc	ccactacatc	ctcccagcaa	2460
gcagttttgg	agagtactca	gggagtctct	cagggttgctc	ctgcagagcc	agttgcagta	2520
gcacagcccc	aagctaccca	gccgaccact	ttggcttctc	ctgtagacag	tgcacattca	2580
gtagtttgctt	caggtatgag	tcagtgcaat	gagaacgtcc	catcttccag	tgggaaggcat	2640
gaaggaagaa	ctacaaaacg	gcattaccga	aaatctgttaa	ggagtgcgtc	tcgacatgaa	2700
aaaacttcac	gccccaaaatt	aagaattttg	aatgtttcaa	ataaaggaga	ccgagtagta	2760
gaatgtcaat	tagagactca	taataggaaa	atggttacat	tcaaatttga	cctagatgggt	2820
gacaaccccc	aggagatagc	aacaattatg	gtgaacaatg	actttattct	agcaatagag	2880
agagagtcgt	ttgtggatca	agtgcgagaa	attattgaaa	aagctgatga	aatgctcagt	2940
gaggatgtca	gtgtggaacc	agagggtgat	caggggattgg	agagtctaca	aggaaaggat	3000
gactatggct	ttttagggttc	tcagaaaattg	gaaggagagt	tcaaacaacc	aattcctgcg	3060
tcttccatgc	cacagcaaat	aggcattcct	accagttctt	taactcaagt	tgttcattct	3120
gcgggaaggc	ggtttatagt	gagtcctgtg	ccagaaagcc	gattacgaga	atcaaaagtt	3180
ttccccagtg	aaataacaga	tacagttgct	gcctctacag	ctcagagccc	tggaatgaac	3240
ttgtctcact	ctgcatcatc	ccttagtcta	caacaggcct	tttctgaact	tagacgtgcc	3300
caaatgcagc	aaggacccaa	yacagcacct	ccaaacttta	gtcatacagg	accaacattt	3360
ccagtagtac	ctcctttctt	aagttagcatt	gctggagttc	caaccacagc	agcagccata	3420
gcaccagtc	ctgcaacaag	cagccctcct	aatgacattt	ccacatcagt	aattcagttc	3480
gaggttacag	tgcccactga	agaggggatt	gctggagttg	ccaccagcac	aggtgtggta	3540
acttcagggtg	gtctccccat	accacctgtg	tctgaatcac	cagtactttc	cagcgtagtt	3600
tcaagtatca	caatacctgc	agttgtctca	atatctacta	catccccgtc	acttcaagtc	3660
cccacatcca	catctgagat	cgttgtttct	agtacagcac	tgtatccttc	agtaacagtt	3720
tcagcaactt	cagcctctgc	agggggcagt	actgctaccc	caggtcctaa	gcctccagtt	3780
gtagtatctc	agcaggcagc	aggcagcact	actgtgggag	ccacattaac	atcagtttct	3840
accaccactt	cattcccaag	cacagcttca	cagctgtcca	ttcagcttag	cagcagttct	3900
tctactccta	cttttagctga	aaccgtggta	gttagcgcac	actcactaga	taagacatct	3960
catagcagta	caactggatt	ggctttctcc	ctctctgcac	catcttccct	ttcctctcct	4020
ggagcaggag	tgtctagtta	tattttctcag	cctgggtgggc	tgcatecttt	ggtcattcca	4080
tcagtgatag	cttctactcc	tattcttccc	caagcagcag	gacctacttc	tacaccttta	4140
ttaccccaag	tacctagtat	cccacccttg	gtacagcctg	ttgccaatgt	gcctgtgtga	4200
cagcagacac	taattcatag	tcagcctcaa	ccagctttgc	ttcccaacca	gccccatact	4260
cattgtcctg	aagtagattc	tgatacacaa	cccaaagctc	ctggaattga	tgacataaag	4320
actctagaag	aaaagctgcg	gtctctgttc	agtgaacaca	gctcatctgg	agctcagcat	4380
gcctctgtct	cactggagac	ctcactagtc	atagagagca	ctgtcacacc	aggcatccca	4440
cctactgctg	ttgcaccaag	caaactcctg	actctatcca	caagtacttg	cttaccacca	4500
accaattttac	cactaggaac	agttgtcttg	ccagttacac	cagtggtcac	acctggggcaa	4560
gtttctaccc	cagtcagcac	tactacatca	ggagtgaaac	ctggaactgc	tccttccaag	4620
ccacctctaa	ctaaggctcc	ggtgctgcca	gtgggtactg	aacttccagc	aggtactcta	4680
cccagcgagc	agctgccacc	ttttccagga	ccttctctaa	cccagtccca	gcaacctcta	4740
gaggatcttg	atgctcaatt	gagaagaaca	cttagtccag	agatkatcac	agtgacttct	4800
gcggttggtc	ctgtctccat	ggcggctcca	acagcaatca	cagaagcagg	aacacagcct	4860

cagaaggggtg	tttctcaagt	caaagaaggc	cctgtcctag	caactagttc	aggagctggg	4920
gtttttaaga	tgggacgatt	tcaggtttct	gttgccagcag	acgggtgcca	gaaagagggg	4980
aaaaataagt	cagaagatgc	aaagtctgtt	cattttgaat	ccagcacctc	agagtcctca	5040
gtgctatcaa	gtagtagtcc	agagagtacc	ttgggtgaaac	cagagccgaa	tggcataacc	5100
atccctggta	tctcttcaga	tgtgccagag	agtgtccaca	aaactactgc	ctcagaggca	5160
aagtcagaca	ctgggcagcc	taccaagggt	ggacgttttc	aggtgacaac	tacagcaaac	5220
aaagtgggtc	gtttctctgt	atcaaaaact	gaggacaaga	tcactgacac	aaagaaagaa	5280
ggaccagtgg	catctcctcc	ttttatggat	ttggaacaag	ctgttcttcc	tgctgtgata	5340
ccaaagaaag	agaagcctga	actgtcagag	ccttcacatc	taaatggggc	gtcttctgac	5400
ccggaggccg	cttttttaag	tagggatgtg	gatgatgggt	ccggtagtcc	acactcgccc	5460
catcagctga	gctcaaagag	ccttcctagc	cagaatctaa	gtcaaagcct	tagtaattca	5520
tttaactcct	cttacatgag	tagcgacaat	gagtcagata	togaagatga	agacttaaag	5580
ttagagctgc	gacgactacg	agataaacat	ctcaaagaga	ttcaggacct	gcagagtcgc	5640
cagaagcatg	aaattgaatc	tttgtatacc	aaactgggca	aggtgcccc	tgctgttatt	5700
attccccccag	ctgctccctc	ttcagggaga	agacgcagac	ccactaaaag	caaaggcagc	5760
aaatctagtc	gaagcagttc	cttggggaat	aaaagccccc	agcttttcagg	taacctgtct	5820
ggtcagagtg	cagcttcagt	cttgccacccc	cagcagaccc	tccaccctcc	tggcaacatc	5880
ccagagtccg	ggcagaatca	gctgttacag	ccccttaagc	catctccctc	cagtgacaac	5940
ctctatttcag	ccttcaccag	tgatgggtgcc	atttcagtag	caagcctttc	tgctccaggt	6000
caaggaataa	agcaaccatc	atcgtccaaa	aacaataaaa	tggagatggt	gccataacctg	6060
ggacaaaagc	ctgttaaggc	gggttggggag	actagctga			6099

<210> 42
 <211> 2032
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> (1)...(2032)
 <223> Xaa = Any Amino Acid

<400> 42

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35				40						45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70				75						80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85					90					95		
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
		130				135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165					170						175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				

Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val		
225					230					235						240	
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe		
				245					250					255			
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu		
			260					265					270				
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg		
		275					280					285					
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val		
	290					295					300						
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala		
305					310					315					320		
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu		
				325					330						335		
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met		
			340					345					350				
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala		
		355					360					365					
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe		
	370					375						380					
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile		
385					390					395					400		
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His		
			405						410					415			
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu		
			420					425				430					
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp		
		435					440					445					
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe		
	450					455					460						
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met		
465					470					475					480		
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys		
			485						490					495			
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg		
			500					505					510				
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser		
		515					520					525					
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys		
	530					535					540						
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser		
545					550					555					560		
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Pro	Glu	Ala	Asp	Gln			
				565					570					575			
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp		
			580					585					590				
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg		
		595				600						605					
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala		
	610					615					620						
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala		
625					630					635					640		
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly		
				645					650					655			
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser		
			660					665					670				
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr			
	675						680				685						
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr		
	690					695					700						
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro		
705					710					715					720		
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly	Phe	Pro	Pro	Arg		

Leu	Pro	Pro	Gln	725	Tyr	Pro	Gly	Asp	Ser	730	Asn	Ile	Ala	Pro	Ser	735	Ser	Asn
			740							745						750		
Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro			
		755						760						765				
Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro			
	770						775						780					
Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln			
	785				790					795					800			
Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr			
				805					810						815			
Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val			
			820						825					830				
Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro			
		835						840						845				
Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser			
	850						855						860					
Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His			
	865				870					875					880			
Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg			
				885						890					895			
Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val			
			900					905						910				
Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn			
		915						920						925				
Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu			
	930					935					940							
Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu			
					950					955					960			
Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp			
			965						970						975			
Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly			
			980					985						990				
Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln			
		995					1000						1005					
Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro			
	1010					1015							1020					
Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser			
	1025				1030										1040			
Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg			
				1045					1050						1055			
Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser			
			1060					1065						1070				
Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu			
			1075				1080							1085				
Ser	Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu			
	1090					1095							1100					
Gly	Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe			
	1105				1110					1115					1120			
Pro	Val	Val	Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr			
				1125					1130						1135			
Ala	Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp			
			1140					1145						1150				
Ile	Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu			
		1155					1160							1165				
Gly	Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly			
	1170					1175						1180						
Leu	Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val			
	1185				1190					1195					1200			
Ser	Ser	Ile	Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro			
				1205					1210						1215			
Ser	Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr			
			1220					1225						1230				

Ala	Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	1235	1240	1245
Gly	Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	1250	1255	1260
Gln	Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	1265	1270	1275
Thr	Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	1285	1290	1295
Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	1300	1305	1310
Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	1315	1320	1325
Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	1330	1335	1340
Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	1345	1350	1355
Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	1365	1370	1375
Ser	Thr	Pro	Leu	Leu	Pro	Gln	Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	1380	1385	1390
Pro	Val	Ala	Asn	Val	Pro	Ala	Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	1395	1400	1405
Pro	Gln	Pro	Ala	Leu	Leu	Pro	Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	1410	1415	1420
Val	Asp	Ser	Asp	Thr	Gln	Pro	Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	1425	1430	1435
Thr	Leu	Glu	Glu	Lys	Leu	Arg	Ser	Leu	Phe	Ser	Glu	His	Ser	Ser	Ser	1445	1450	1455
Gly	Ala	Gln	His	Ala	Ser	Val	Ser	Leu	Glu	Thr	Ser	Leu	Val	Ile	Glu	1460	1465	1470
Ser	Thr	Val	Thr	Pro	Gly	Ile	Pro	Thr	Thr	Ala	Val	Ala	Pro	Ser	Lys	1475	1480	1485
Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	Pro	Thr	Asn	Leu	Pro	1490	1495	1500
Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr	Pro	Gly	Gln	1505	1510	1515
Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys	Pro	Gly	Thr	1525	1530	1535
Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu	Pro	Val	Gly	1540	1545	1550
Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	Gln	Leu	Pro	Pro	Phe	1555	1560	1565
Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro	Leu	Glu	Asp	Leu	Asp	1570	1575	1580
Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr	Val	Thr	Ser	1585	1590	1595
Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile	Thr	Glu	Ala	1605	1610	1615
Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu	Gly	Pro	Val	1620	1625	1630
Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly	Arg	Phe	Gln	1635	1640	1645
Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys	Asn	Lys	Ser	1650	1655	1660
Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser	Thr	Ser	Glu	Ser	Ser	1665	1670	1675
Val	Leu	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu	Val	Lys	Pro	Glu	Pro		1685	1690	1695
Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	Val	Pro	Glu	Ser	Ala	1700	1705	1710
His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	Thr	Gly	Gln	Pro	Thr	1715	1720	1725
Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Ala	Asn	Lys	Val	Gly	Arg				


```

ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1200
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1260
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1380
gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1500
agagtatcat taattaagag gaaacgagag cagcggcagt tggtagggga ggagcaagaa 1560
aaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1620
acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccacttca 1680
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcagggga 1800
tcctctgtct tcacagaatc tcgagtgagc agccaacaga cagtttcata tggttcccaa 1860
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
cagtcctcag cccatggggg atatccacc tcaagtgtgg cacaggggca gagccagggt 1980
cagccatcct caagtagctt aacagggggt tcactctccc aaccataca acatcctcag 2040
cagcagcagg gaatacagca gacagcccct cctcaacaga cagtgcagta ttcactttca 2100
cagacatcaa cctccagtga ggccactact gcacagccag tgagttagcc tcaagctcca 2160
caagtcttgc ctcaagtatc agctggaaaa cagggcttcc cacctcgact gccaccacag 2220
taccagggag attcaaatat tgctccctct tccaacgtgg cttctgtttg catccattct 2280
acagtctaw cccctatacc ttctgcataa 2310

```

<210> 44

<211> 769

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)...(769)

<223> Xaa = Any Amino Acid

<400> 44

```

Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu
 1          5          10          15
His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala
 20          25          30
Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro
 35          40          45
Ala Ala Val Pro Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr
 50          55          60
Val Thr Ala Thr Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala
 65          70          75          80
Ala Ala Pro Gly Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val
 85          90          95
Pro Ser Ser Thr Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val
100          105          110
Gly Ser Lys Glu Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly
115          120          125
Ser Ala Lys Glu Pro Gln Glu Glu Arg Ser Gln Gln Asp Asp Ile
130          135          140
Glu Glu Leu Glu Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe
145          150          155          160
Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr
165          170          175
Lys Gly Leu Asp Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu
180          185          190
Gln Asp Arg Lys Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu
195          200          205
Ala Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr
210          215          220
Asp Ser Trp Glu Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val
225          230          235          240
Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe

```

Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
			260					265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275					280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
				325					330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355					360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
						375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
				405					410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420					425					430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435					440					445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450				455					460					
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
				485					490					495	
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
			500					505					510		
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
	530					535					540				
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
				565					570					575	
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
		595				600					605				

Val Ala Ser Val Cys Ile His Ser Thr Val Leu Xaa Pro Ile Pro Ser
 755 760 765
 Ala

<210> 45
 <211> 6231
 <212> DNA
 <213> Homo sapiens

<400> 45
 atggacaagg acagccgtgg ggcggccgcg accactacca ccaactgagca ccgcttcttc 60
 cgccggagcg tcactctgca ctccaatgcc actgcactgg agcttcccgg ccttctctct 120
 tccctgcccc agcccagcat ccccgcggt gtcccgaga gtgctccacc ggagcccac 180
 cgggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgt 240
 gccgcccctg gggaaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 300
 agcaaagacc gccagtgct ccagcctagc cttgtgggga gcaaagagga gccgcccgcg 360
 gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
 caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
 ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggctctaca aggtctggac 540
 actgaaacca ccgtggaagt cgcctggtgt gaactgcagg atcgaaaatt aacaaagtct 600
 gagaggcaga gatttaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
 gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 720
 actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 780
 atcaaagttc taagaagctg gtgccgtcag atccttaaaag gtcttcagtt tcttcatact 840
 cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
 actggctcag tcaagattgg agacctcggt ctggcaacc tgaagcgggc ttcttttgcc 960
 aagagtgtga taggtacccc agagttcatg gcccttgaga tgtatgagga gaaatatgat 1020
 gaatccgttg acgtttatgc ttttgggatg tgcagtcttg agatggctac atctgaatat 1080
 ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1140
 ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1200
 cgacaaaaca aagatgaaag atattccatt aaagaccttt tgaaccatgc cttcttccaa 1260
 gaggaacacg gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
 aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1380
 gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
 gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggctaaagc tatcaaagac 1500
 agagtatcat taattaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1560
 aaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1620
 acaggaatca acagctccc tctgctagc accggcatac ctactgcttc taccacttca 1680
 gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
 cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1800
 tctctgtct tcacagaatc tcgagtgagc agccaacaga cagtttcata tggttcccaa 1860
 catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
 cagtcctcag cccatggggt atatccacct tcaagtgtgg cacaggggca gagccagggt 1980
 cagcctactc caagtagctt aacaggggt tcatcttccc aacctataca acatcctcag 2040
 cagcagcagg gaatacagca gacagccct cctcaacaga cagtgcagta ttcactttca 2100
 cagacatcaa cctccagtga ggccactact gcacagccag tgagtcagcc tcaagctcca 2160
 caagtcttgc ctcaagtatc agctggaaaa cagagtactc agggagtctc tcagggtgct 2220
 cctgcagagc cagttgcagt agcacagccc caagctacct agccgaccac tttggcttcc 2280
 tctgtagaca gtgcacattc agatgttgct tcaggtatga gtgatggcaa tgagaacgtc 2340
 ccatcttcca gtggaaggca tgaaggaaga actacaaaac ggcattaccg aaaatctgta 2400
 aggagtgcgt ctgcacatga aaaaacttca cgcccaaat taagaatttt gaatgtttca 2460
 aataaaggag accgagtagt agaattgtcaa ttagagactc ataataaggaa aatggttaca 2520
 ttcaaatttg acctagatgg tgacaacccc gaggagatag caacaattat ggtgaacaat 2580
 gactttatct tagcaataga gagagagtcg tttgtggatc aagtgcgaga aattattgaa 2640
 aaagctgatg aaatgctcag tgaggatgtc agtgtggaac cagaggggtga tcagggattg 2700
 gagagctctac aaggaaagga tgactatggc ttttcaggtt ctcaaaaatt ggaaggagag 2760
 ttcaaacaac caattcctgc gtcttccatg ccacagcaaa taggcattcc taccagttct 2820
 ttaactcaag ttgttcattc tgcgggaagg cggtttatag tgagtcctgt gccagaaagc 2880
 cgattacgag aatcaaaagt tttcccagc gaaataacag atacagttgc tgcctctaca 2940
 gctcagagcc ctggaatgaa cttgtctcac tctgcatcat cccttagtct acaacaggcc 3000
 ttttctgaac ttagacgtgc ccaaatgaca gaaggaccac ayacagcacc tccaaacttt 3060
 agtcatacag gaccaacatt tccagtagta cctcctttct taagtagcat tgctggagtc 3120

ccaaccacag	cagcagccac	agcaccagtc	cctgcaacaa	gcagccctcc	taatgacatt	3180
tccacatcag	taattcagtc	tgaggttaca	gtgcccactg	aagaggggat	tgctggagtt	3240
gccaccagca	caggtgtggt	aacttcaggt	ggtctcccca	taccacctgt	gtctgaatca	3300
ccagttactt	ccagcgtagt	ttcaagtatc	acaatacctg	cagttgtctc	aatatctact	3360
acatccccgt	cacttcaagt	ccccacatcc	acatctgaga	tcgttggttc	tagtacagca	3420
ctgtatccct	cagtaacagt	ttcagcaact	tcagcctctg	cagggggcag	tactgtctacc	3480
ccaggttcta	agcctccagc	tgtagtatct	cagcaggcag	caggcagcac	tactgtggga	3540
gccacattaa	catcagtttc	taccaccact	tcattcccaa	gcacagcttc	acagctgtcc	3600
attcagctta	gcagcagtac	ttctactcct	acttttagctg	aaaccgtggt	agtttagcgca	3660
cactcactag	ataagacatc	tcatagcagt	acaactggat	tggttttctc	cctctctgca	3720
ccatcttcc	cttctctctc	tgagcagga	gtgtctagtt	atatttctca	gcctgggtggg	3780
ctgcatccct	tggtcattcc	atcagtgata	gcttctactc	ctattcttcc	ccaagcagca	3840
ggacctactt	ctacaccttt	attaccccaa	gtacctagta	tcccaccctt	ggtacagcct	3900
gttgccaatg	tgctgtctgt	acagcagaca	ctaattcata	gtcagcctca	accagctttg	3960
cttcccaacc	agccccatac	tcattgtcct	gaagtagatt	ctgatacaca	acccaaagct	4020
cctggaattg	atgacataaa	gactctagaa	gaaaagctgc	ggtctctgtt	cagtgaacac	4080
agctcatctg	gagctcagca	tgctctgtgc	tcactggaga	cctcactagt	catagagagc	4140
actgtcacac	caggcatccc	aactactgct	gttgccacaa	gcaaactcct	gacttctacc	4200
acaagtactt	gcttaccacc	aaccaattta	ccactaggaa	cagttgcttt	gccagttaca	4260
ccagtggtea	cacctgggca	agtttctacc	ccactcagca	ctactacatc	aggagtgaac	4320
cctggaactg	ctccctccaa	gccacctcta	actaaggctc	cgggtgctgcc	agtggtgact	4380
gaacttccag	caggtactct	acccagcgag	cagctgccac	cttttccagg	accttctcta	4440
acccagtcct	agcaacctct	agaggatctt	gatgctcaat	tgagaagaac	acttagtcca	4500
gagatkatac	cagtgcattc	tgcggttggt	cctgtgtcca	tgccggctcc	aacagcaatc	4560
acagaagcag	gaacacagcc	tcagaagggt	gtttctcaag	tcaaagaagg	ccctgtccta	4620
gcaactagtt	caggagctgg	tggttttaag	atgggacgat	ttcaggtttc	tggtgcagca	4680
gcagggtgcc	agaaagaggg	taaaaataag	tcagaagatg	caaagtctgt	tcattttgaa	4740
tccagcacct	cagagtcctc	agtgtctatc	agtagtagtc	cagagagtag	cttggtgaaa	4800
ccagagccga	atggcataac	catccctggt	atctcttcag	atgtgccaga	gagtgtccac	4860
aaaactactg	cctcagaggg	aaagtcagac	actgggcagc	ctaccaaggt	tggtcgtttt	4920
caggtgacaa	ctacagcaaa	caaagtgggt	cgtttctctg	tatcaaaaaa	tgaggacaag	4980
atcactgaca	caaagaaaga	aggaccagtg	gcattctctc	cttttatgga	tttggaaaca	5040
gtgtgtcttc	ctgctgtgat	accaaagaaa	gagaagcctg	aactgtcaga	gccttcacat	5100
ctaaatgggc	cgtcttctga	ccgggaggcc	gcttttttaa	gtagggatgt	ggatgatggt	5160
tccggtagtc	cacactcgcc	ccatcagctg	agctcaaaga	gccttcctag	ccagaatcta	5220
agtcaaagcc	ttagtaattc	atttaactcc	tcttacatga	gtagcgacaa	tgagtcagat	5280
atcgaagatg	aagacttaaa	gttagagctg	cgacgactac	gagataaaca	tctcaaagag	5340
attcaggacc	tgcagagtcg	ccagaagcat	gaaattgaat	ctttgtatac	caaactgggc	5400
aagggtgccc	ctgctgttat	tattccccc	gctgctcccc	tttcaggggag	aagacgacga	5460
cccactaaaa	gcaaaggcag	caaacttagt	cgaagcagtt	ccttggggaa	taaaagcccc	5520
cagctttcag	gtaacctgtc	tggtcagagt	gcagcttcag	tcttgacccc	ccagcagacc	5580
ctccaccctc	ctggcaacat	cccagagtc	gggcagaatc	agctgttaca	gcccccttaag	5640
ccatctccct	ccagtgcaca	cctctattca	gccttcacca	gtgatgggtg	catttcagta	5700
ccaagccctt	ctgctccagg	tcaaggaacc	agcagcaca	acactgttgg	ggcaacagtg	5760
aacagccaa	cgccccagc	tcagcctcct	gccatgacgt	ccagcaggaa	gggcacattc	5820
acagatgact	tgcacaagtt	ggtagacaat	tgggcccag	atgccatgaa	tctctcaggc	5880
aggagaggaa	gcaaagggca	catgaattat	gagggccctg	gaatggcaag	gaagttctct	5940
gcacctgggc	aactgtgcat	ctccatgacc	tcgaacctgg	gtggctctgc	ccccatctct	6000
gcagcatcag	ctacctctct	aggtcacttc	accaagtcta	tgtgcccccc	acagcagtat	6060
ggctttccag	ctaccccat	tggtgctcaa	tgagtgagg	cgggtggccc	agcaccacag	6120
ccacttggcc	agttccaacc	tgtgggaact	gcctccttgc	agaatttcaa	catcagcaat	6180
ttgcagaaat	ccatcagcaa	ccccccaggc	tccaacctgc	ggaccactta	g	6231

<210> 46
 <211> 2076
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2076)

<223> Xaa = Any Amino Acid

<400> 46

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
		20						25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70				75						80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
				85					90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150				155						160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
		180						185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260						265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
	275						280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
		340					345						350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355					360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375						380			
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420				425						430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435				440						445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450				455						460				
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480

Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	
				485					490					495		
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	
			500					505					510			
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	
		515					520					525				
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	
	530					535					540					
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	
545					550					555					560	
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	
			565						570					575		
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	
			580					585					590			
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	
		595					600					605				
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	
	610					615					620					
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	
625					630					635					640	
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly	
				645					650					655		
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser	
		660						665					670			
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr		
		675					680				685					
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr	
	690					695					700					
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro	
705					710					715					720	
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val	
				725					730					735		
Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	
		740						745					750			
Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	
		755					760					765				
Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	
	770					775					780					
Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	
785					790					795					800	
Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	
				805					810					815		
Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	
				820				825					830			
Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	
		835					840					845				
Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	
	850					855					860					
Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	
865					870					875					880	
Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	
				885					890					895		
Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	
		900						905					910			
Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	
		915					920						925			
Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	
	930					935					940					
Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	
945					950					955					960	
Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	
				965					970					975		
Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	

Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr
1490						1495					1500				
Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile
1505					1510					1515					1520
Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu
				1525					1530					1535	
Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly
			1540					1545					1550		
Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys
		1555					1560					1565			
Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu	Ser	Ser	Thr	Ser
1570						1575					1580				
Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser	Thr	Leu	Val	Lys
1585				1590						1595					1600
Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	Val	Pro
			1605						1610					1615	
Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	Thr	Gly
			1620					1625					1630		
Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr	Thr	Ala	Asn	Lys
		1635					1640						1645		
Val	Gly	Arg	Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr	Asp	Thr
	1650					1655					1660				
Lys	Lys	Glu	Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu	Glu	Gln
1665				1670						1675					1680
Ala	Val	Leu	Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu	Leu	Ser
			1685						1690					1695	
Glu	Pro	Ser	His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala	Ala	Phe
			1700					1705					1710		
Leu	Ser	Arg	Asp	Val	Asp	Asp	Gly	Ser	Gly	Ser	Pro	His	Ser	Pro	His
		1715					1720					1725			
Gln	Leu	Ser	Ser	Lys	Ser	Leu	Pro	Ser	Gln	Asn	Leu	Ser	Gln	Ser	Leu
1730						1735					1740				
Ser	Asn	Ser	Phe	Asn	Ser	Ser	Tyr	Met	Ser	Ser	Asp	Asn	Glu	Ser	Asp
1745				1750						1755					1760
Ile	Glu	Asp	Glu	Asp	Leu	Lys	Leu	Glu	Leu	Arg	Arg	Leu	Arg	Asp	Lys
			1765						1770					1775	
His	Leu	Lys	Glu	Ile	Gln	Asp	Leu	Gln	Ser	Arg	Gln	Lys	His	Glu	Ile
			1780					1785					1790		
Glu	Ser	Leu	Tyr	Thr	Lys	Leu	Gly	Lys	Val	Pro	Pro	Ala	Val	Ile	Ile
		1795					1800					1805			
Pro	Pro	Ala	Ala	Pro	Leu	Ser	Gly	Arg	Arg	Arg	Arg	Pro	Thr	Lys	Ser
		1810				1815					1820				
Lys	Gly	Ser	Lys	Ser	Ser	Arg	Ser	Ser	Ser	Leu	Gly	Asn	Lys	Ser	Pro
1825				1830						1835					1840
Gln	Leu	Ser	Gly	Asn	Leu	Ser	Gly	Gln	Ser	Ala	Ala	Ser	Val	Leu	His
			1845						1850					1855	
Pro	Gln	Gln	Thr	Leu	His	Pro	Pro	Gly	Asn	Ile	Pro	Glu	Ser	Gly	Gln
			1860					1865					1870		
Asn	Gln	Leu	Gln	Pro	Leu	Lys	Pro	Ser	Pro	Ser	Ser	Asp	Asn	Leu	
		1875				1880						1885			
Tyr	Ser	Ala	Phe	Thr	Ser	Asp	Gly	Ala	Ile	Ser	Val	Pro	Ser	Leu	Ser
		1890				1895					1900				
Ala	Pro	Gly	Gln	Gly	Thr	Ser	Ser	Thr	Asn	Thr	Val	Gly	Ala	Thr	Val
1905				1910						1915					1920
Asn	Ser	Gln	Ala	Ala	Gln	Ala	Gln	Pro	Pro	Ala	Met	Thr	Ser	Ser	Arg
			1925						1930					1935	
Lys	Gly	Thr	Phe	Thr	Asp	Asp	Leu	His	Lys	Leu	Val	Asp	Asn	Trp	Ala
		1940						1945					1950		
Arg	Asp	Ala	Met	Asn	Leu	Ser	Gly	Arg	Arg	Gly	Ser	Lys	Gly	His	Met
		1955					1960					1965			
Asn	Tyr	Glu	Gly	Pro	Gly	Met	Ala	Arg	Lys	Phe	Ser	Ala	Pro	Gly	Gln
1970						1975						1980			
Leu	Cys	Ile	Ser	Met	Thr	Ser	Asn	Leu	Gly	Gly	Ser	Ala	Pro	Ile	Ser

1985		1990		1995		2000
Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys Pro						
	2005			2010		2015
Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser						
	2020			2025		2030
Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro Val						
	2035			2040		2045
Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser						
	2050			2055		2060
Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr						
2065		2070		2075		

<210> 47
 <211> 5820
 <212> DNA
 <213> Homo sapiens

<400> 47

atggacaagg	acagccgtgg	ggcgggccg	accactacca	ccactgagca	ccgcttcttc	60
cgccggagcg	tcattctgcga	ctccaatgcc	actgcactgg	agcttcccgg	ccttcctctt	120
tccctgcccc	agcccagcat	ccccgcggt	gtcccgcaga	gtgctccacc	ggagccccac	180
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gcccgccttg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtacc	300
agcaaagacc	gcccagtgct	ccagcctagc	cttgtgggga	gcaaagagga	gcccgcgccc	360
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggg	tcctttaaga	cggctctacaa	aggtctggac	540
actgaaacca	ccgtggaagt	cgccctggtg	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gattttaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgacgtcttg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag	780
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	840
cgaaactccac	ctatcattca	cgcgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actgggtcag	tcaagatttg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgttttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgccaaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacctatg	cttcttccaa	1260
gaggaaacag	gagtagcggg	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtacggga	ggagcaagaa	1560
aaaaaaaagc	agtagtagag	cagtcctcaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1800
tcctctgtct	tcacagaatc	tcgagtgagc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgg	cacaggggca	gagccagggt	1980
cagccatcct	caagtagcct	aacaggggtt	tcattctccc	aaccataca	acatcctcag	2040
cagcagcagg	gaatacagca	gacagccctt	cctcaacaga	cagtgcagta	ttcactttca	2100
cagacatcaa	cctccagtga	ggccactact	gcacagccag	tgagtccagc	tcaagctcca	2160
caagtcttgc	ctcaagtatc	agctggaaaa	cagagtactc	agggagtctc	tcagggttgc	2220
cctgcagagc	cagttgcagt	agcacagccc	caagctaccc	agccgaccac	tttggcttcc	2280
tctgtagaca	gtgcacattc	agatgttgct	tcaggtagta	gtgatggcaa	tgagaacgtc	2340
ccatcttcca	gtggaaggca	tgaagggaaga	actacaaaac	ggcattaccg	aaaatctgta	2400
aggagtgcgt	ctcgacatga	aaaaacttca	cgcccaaaat	taagaatttt	gaatgtttca	2460
aataaaggag	accgagtagt	agaatgtcaa	ttagagactc	ataataggaa	aatgggtaca	2520
ttcaaatttg	acctagatgg	tgacaacccc	gaggagatag	caacaattat	ggtgaacaat	2580
gactttattc	tagcaataga	gagagagtcg	tttgtggatc	aagtgcgaga	aattattgaa	2640
aaagctgtag	aaatgctagc	tgaggatgac	agtgtggaac	cagaggggtga	tcaggggattg	2700

gagagtctac	aaggaaagga	tgactatggc	ttttcagggt	ctcagaaatt	ggaaggagag	2760
ttcaaacaac	caatttcctgc	gtcttccatg	ccacagcaaa	taggcattcc	taccagttct	2820
ttaaactcaag	ttgttcattc	tgcggaaggg	cgggtttatag	tgagtcctgt	gccagaaagc	2880
cgattacgag	aatcaaaagt	tttccccagt	gaaataacag	atacagttgc	tgctctaca	2940
gctcagagcc	ctggaatgaa	cttgtctcac	tctgcatcat	cccttagtct	acaacaggcc	3000
ttttctgaac	ttagacgtgc	ccaaatgaca	gaaggaccca	ayacagcacc	tcctaaacttt	3060
agtcatacag	gaccaacatt	tccagtagta	cctcctttct	taagtagcat	tgctggagtc	3120
ccaaccacag	cagcagccac	agcaccagtc	cctgcaacaa	gcagccctcc	taatgacatt	3180
tccacatcag	taattcagtc	tgagggtaca	gtgcccactg	aagaggggat	tgctggagtt	3240
gccaccagca	caggtgtggt	aacttcagggt	gggtctcccca	taccacctgt	gtctgaatca	3300
ccagtaacttt	ccagcgtagt	ttcaagtatc	acaatacctg	cagttgtctc	aatatctact	3360
acatccccgt	cacttcaagt	ccccacatcc	acatctgaga	tcgttggttc	tagtacagca	3420
ctgtatcctt	cagtaacagt	ttcagcaact	tcagcctctg	cagggggcag	tactgttacc	3480
ccaggtccta	agcctccagc	tgtagtatct	cagcaggcag	caggcagcac	tactgtggga	3540
gccacattaa	catcagtttc	taccaccact	tcattcccaa	gcacagcttc	acagctgtcc	3600
attcagctta	gcagcagtag	ttctactcct	acttttagctg	aaaccgtggt	agttagcgca	3660
cactcactag	ataagacatc	tcatagcagt	acaactggat	tggttttctc	cctctctgca	3720
ccatcttcct	cttctctctc	tgtagcagga	gtgtctagtt	atattttctca	gcctgggtggg	3780
ctgcacccct	tggtcattcc	atcagtgata	gcttctactc	ctattcttcc	ccaagcagca	3840
ggacctactt	ctacaccctt	attaccccaa	gtacctagta	tcccaccctt	ggtacagcct	3900
gttgccaatg	tgctgtctgt	acagcagaca	ctaattcata	gtcagcctca	accagctttg	3960
cttcccaacc	agccccatac	tcattgtcct	gaagtagatt	ctgatacaca	acccaaagct	4020
cctggaattg	atgacataaa	gactctagaa	gaaaagctgc	gggtctctgtt	cagtgaacac	4080
agctcatctg	gagctcagca	tgctctctgtc	tcactggaga	cctcactagt	catagagagc	4140
actgtcacac	caggcatccc	aactactgct	gttgccacca	gcaaactcct	gacttctacc	4200
acaagtactt	gcttaccacc	aaccaattta	ccactaggaa	cagttgcttt	gccagttaca	4260
ccagtgggtca	cacctgggca	cacttctacc	cagctcagca	ctactacatc	aggagtgaag	4320
cctggaactg	ctccctccaa	gccacctcta	actaaggctc	cgggtgctgcc	agtgggtact	4380
gaacttccag	caggtactct	acccagcgag	cagctgccac	cttttccagg	accttctcta	4440
acccagtcct	agcaacctct	agaggatctt	gatgtcfaat	tgagaagaac	acttagtcca	4500
gagatkatca	cagtgaactc	tgcggttggt	cctgtgtcca	tgccggctcc	aacagcaatc	4560
acagaagcag	gaacacagcc	tcagaagggt	gtttctcaag	tcaaagaagg	ccctgtccta	4620
gcaactagtt	caggagctgg	gttttttaag	atgggacgat	ttcaggtttc	tggtgcagca	4680
gacgggtgcc	agaaagaggg	taaaaataag	tcagaagatg	caaagtctgt	tcattttgaa	4740
tccagcacct	cagagtcctc	agtgtctatca	agtagtagtc	cagagagtac	cttggtgaaa	4800
ccagagccga	atggcataac	catccctggt	atctcttcag	atgtgccaga	gagtgcccac	4860
aaaactactg	cctcagaggg	aaagtccagc	actgggcagc	ctaccaaggt	tggaagcttt	4920
caggtgacaa	ctacagcaaa	caaagtgggt	cgtttctctg	tatcaaaaac	tgaggacaag	4980
atcactgaca	caaagaaaga	aggaccagtg	gcactctctc	cttttatgga	tttggaacaa	5040
gctgttcttc	ctgctgtgat	accaaagaaa	gagaagcctg	aactgtcaga	gccttcacat	5100
ctaaatgggc	cgtcttctga	cccggaggcc	gcttttttaa	gtagggatgt	ggatgatggg	5160
tccggtagtc	cacactcgcc	ccatcagctg	agctcaaaga	gccttcctag	ccagaatcta	5220
agtcaaagcc	ttagtaattc	atttaactcc	tcttacatga	gtagcgacaa	tgagtcagat	5280
atcgaagatg	aagacttaaa	gttagagctg	cgaagactac	gagataaaca	tctcaaagag	5340
attcaggacc	tcagagctcg	ccagaagcat	gaaattgaat	ctttgtatac	caaactgggc	5400
aagggtgccc	ctgctgttat	tattccccca	gctgtctccc	tttcaggagg	aagacgacga	5460
cccactaaaa	gcaaaggcag	caaactctagt	cgaagcagtt	ccttggggaa	taaaagcccc	5520
cagctttcag	gtaacctgtc	tggtcagagt	gcagcttcag	tcttgacccc	ccagcagacc	5580
ctccaccctc	ctggcaacat	cccagagtc	gggcagaatc	agctgttaca	gccccttaag	5640
ccatctccct	ccagtgcaca	cctctattca	gccttcacca	gtgatgggtg	catttcagta	5700
ccaagccttt	ctgctccagg	tcaaggaata	aagcaaccat	catcgcccaa	aaacaataaa	5760
atggagatgt	tgccatacct	gggacaaaag	cctgttaagg	cgggttgggg	gactagctga	5820

<210> 48
 <211> 1939
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT

<222> (1)...(1939)
 <223> Xaa = Any Amino Acid

<400> 48

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25				30			
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85						90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
			260				265						270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275					280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290					295					300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355					360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420				425						430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435					440					445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450					455				460					
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met

465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
				485					490						495
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
			500					505						510	
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
			515					520					525		
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
			530				535					540			
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
				565					570					575	
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
			595				600					605			
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala
			610				615					620			
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala
625					630					635					640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Ala	Gln	Gly
				645					650					655	
Gln	Ser	Gln	Gly	Gln	Pro	Ser	Ser	Ser	Ser	Leu	Thr	Gly	Val	Ser	Ser
			660					665					670		
Ser	Gln	Pro	Ile	Gln	His	Pro	Gln	Gln	Gln	Gly	Ile	Gln	Gln	Thr	
			675				680					685			
Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	Gln	Thr	Ser	Thr
			690			695					700				
Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	Pro	Gln	Ala	Pro
705					710					715					720
Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	Thr	Gln	Gly	Val
				725					730					735	
Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala
			740					745					750		
Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp
			755				760					765			
Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser
			770			775					780				
Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val
785					790					795					800
Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile
				805					810					815	
Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu
			820				825						830		
Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp
			835				840					845			
Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu
			850			855					860				
Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu
865					870					875					880
Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly
				885					890					895	
Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser
			900					905					910		
Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser
			915				920					925			
Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val
			930			935					940				
Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser
945					950					955					960
Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val
				965					970					975	

1475	1480	1485
Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile Thr		
1490	1495	1500
Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala Ile		
1505	1510	1515
Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys Glu		
1525	1530	1535
Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met Gly		
1540	1545	1550
Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly Lys		
1555	1560	1565
Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr Ser		
1570	1575	1580
Glu Ser Ser Val Leu Ser Ser Ser Pro Glu Ser Thr Leu Val Lys		
1585	1590	1595
Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val Pro		
1605	1610	1615
Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr Gly		
1620	1625	1630
Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn Lys		
1635	1640	1645
Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp Thr		
1650	1655	1660
Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu Gln		
1665	1670	1675
Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu Ser		
1685	1690	1695
Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Ala Phe		
1700	1705	1710
Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro His		
1715	1720	1725
Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser Leu		
1730	1735	1740
Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp		
1745	1750	1755
Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys		
1765	1770	1775
His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile		
1780	1785	1790
Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile		
1795	1800	1805
Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser		
1810	1815	1820
Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro		
1825	1830	1835
Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His		
1845	1850	1855
Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln		
1860	1865	1870
Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu		
1875	1880	1885
Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser		
1890	1895	1900
Ala Pro Gly Gln Gly Ile Lys Gln Pro Ser Ser Ser Lys Asn Asn Lys		
1905	1910	1915
Met Glu Met Leu Pro Tyr Leu Gly Gln Lys Pro Val Lys Ala Gly Trp		
1925	1930	1935
Glu Thr Ser		

<210> 49
 <211> 6885
 <212> DNA

<213> Homo sapiens

<400> 49

atggacaagg	acagccgtgg	ggcggccg	accactacca	ccactgagca	ccgcttcttc	60
cgccggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccgg	ccttccctctt	120
tccctgcccc	agcccagcat	ccccgcggt	gtcccgcaga	gtgctccacc	ggagccccac	180
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gcccctctg	gggaacaggc	cgtcgcgggc	cctgccccct	cgactgtccc	cagcagtagc	300
agcaaagacc	gcccagtgct	ccagcctagc	cttgtgggga	gcaaagagga	gccgccgccc	360
gcgagaagt	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaaa	aggtctggac	540
actgaaacca	ccgtggaagt	cgcctggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagatgtt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgaagtctgg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag	780
atcaaagtgc	taagaagctg	gtgccgtcag	atccttaaag	gtcttcagtt	tcttcatact	840
cgaactccac	ctatcattca	ccgcgatctt	aatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccccgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgttttatg	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgcacaaa	tgtgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1260
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tactgtattg	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	ttctttttga	tttagagaga	agatgttgc	acaagaaatg	tacaaagac	1440
gtagagtctg	ggtatgtctg	tgaaggtgat	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacctagtat	atctgtgtta	tctgatggga	cgggtgacag	tggtagggga	1800
tcctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	1980
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2040
actactgcac	agccagttag	tcagcctcaa	gctccacaag	tcttgctca	agtatcagct	2100
ggaaaacagc	ttccagtttc	ccagccagta	ccaactatcc	aaggcgaacc	tcagatccca	2160
gttgcgacac	aacctctggg	tgttccagtc	cactctggtg	ctcatttctc	tccagtggga	2220
cagccgctcc	ctactccctt	gctccctcag	tacctgtct	ctcagattcc	catatcaact	2280
cctcatgtgt	ctacggctca	gacaggtttc	tcattccctc	ccatcacat	ggcagctggc	2340
attactcagc	ctctgctcac	gttggtttca	tctgtacaaa	cagctgcgat	cccgggggta	2400
tcaactgtgg	ttcttagtca	gcttccaacc	cttctgcage	ctgtgactca	gctgccaagt	2460
caggtttcacc	ccagctcctc	acaaccagca	gttcagttca	tgggaatacc	agctaaccct	2520
ggacaagctg	ctgagggttc	actttcctct	ggagatgttc	tgtaccaggg	cttcccacct	2580
cgactgccac	cacagtaccc	aggagattca	aatattgtct	cctcttccaa	cgtggcttct	2640
gtttgcatcc	attctacagt	cctawccctc	cccatgccga	cagaagtact	ggctacacct	2700
gggtactttc	ccacagtggg	gcagccttat	gtggaatcaa	atcttttagt	tcctatgggt	2760
ggtgtaggag	gacaggttca	agtgtcccag	ccaggaggga	gtttagcaca	agccccct	2820
acatccctccc	agcaagcagt	tttgagagat	actcagggga	tctctcaggt	tgctcctgca	2880
gagccagttg	cagtagcaca	gccccagct	accagccga	ccactttggc	ttcctctgta	2940
gacagtgcac	attcagatgt	tgtttcaggt	atgagtgatg	gcaatgagaa	cgtcccatct	3000
tccagtggaa	ggcatgaagg	aagaactaca	aaacggcatt	accgaaaatc	tgtaaggagt	3060
cgctctcgac	atgaaaaaac	ttcacgcccc	aaattaagaa	ttttgaatgt	ttcaaatata	3120
ggagaccgag	tagtagaatg	tcaattagag	actcataata	ggaaaatggt	tacattcaaa	3180
tttgacctag	attggtgacaa	ccccgaggag	atagcaacaa	ttatggtgaa	caatgacttt	3240
attctagcaa	tagagagaga	gtcgtttgtg	gatcaagtgc	gagaaattat	tgaaaaagct	3300
gatgaaatgc	tcagtgagga	tgtcagtgtg	gaaccagagg	gtgatcaggg	attggagagt	3360
ctacaaggaa	aggatgacta	tggcttttca	ggttctcaga	aattggaagg	agagttcaaa	3420
caaccaatcc	ctgcgtcttc	catgccacag	caaataaggca	ttcctaccag	ttctttaact	3480
caagttgttc	attctgcggg	aaggcgggtt	atagtgaagc	ctgtgccaga	aagccgatta	3540
cgagaatcaa	aagttttccc	cagtgaataa	acagatacag	ttgctgcctc	tacagctcag	3600

agccctggaa	tgaacttgtc	tcactctgca	tcattccctta	gtctacaaca	ggccttttct	3660
gaacttagac	gtgccccaaat	gacagaagga	cccaayacag	cacctccaaa	cttttagtcat	3720
acaggacca	cattttccagt	agtacctcct	ttcttaagta	gcattgctgg	agtcccaacc	3780
acagcagcag	ccacagcacc	agtccttgca	acaagcagcc	ctcctaataga	cattttccaca	3840
tcagtaattc	agtctgaggt	tacagtgcgc	actgaagagg	ggattgctgg	agttgccacc	3900
agcacagggtg	tggtaacttc	aggtgggtctc	cccataccac	ctgtgtctga	atcaccagta	3960
cctttccagcg	tagttttcaag	tatcacaata	cctgcagttg	tctcaatatc	tactacatcc	4020
ccgtcacttc	aagtccccac	atccacatct	gagatcgttg	tttctagtac	agcactgtat	4080
ccttcagtaa	cagttttcagc	aacttcagcc	tctgcagggg	gcagtactgc	taccccgagt	4140
cctaagcctc	cagctgtagt	atctcagcag	gcagcaggca	gcactactgt	gggagccaca	4200
ttaacatcag	tttctaccac	cacttcattc	ccaagcacag	cttcacagct	gtccattcag	4260
cttagcagca	gtactttctac	tctactttta	gctgaaaccg	tggtagtttag	cgcacactca	4320
ctagataaga	catctcatag	cagtacaact	ggattggctt	tctccctctc	tgcaccactt	4380
tctctttcct	ctcctggagc	aggagtgtct	agttatatct	ctcagcctgg	tgggctgcac	4440
ccttttggtca	ttccatcagt	gatagcttct	actcctattc	ttccccaagc	agcaggacct	4500
actttctacac	ctttattacc	ccaagtacct	agtatcccac	ccttggtaca	gcctgttgcc	4560
aatgtgcctg	ctgtacagca	gacactaatt	catagtcagc	ctcaaccagc	tttgcctccc	4620
aaccagcccc	atactcattg	tcttgaagta	gattctgata	cacaacccaa	agctcctgga	4680
attgatgaca	taaagactct	agaagaaaag	ctgcgggtctc	tgttcagtga	acacagctca	4740
tctggagctc	agcatgcctc	tgtctcactg	gagacctcac	tagtcataga	gagcactgtc	4800
acaccaggca	tcccaactac	tgtctgttgc	ccaagcaaac	tcttgacttc	taccacaagt	4860
acttgcttac	caccaaccaa	tttaccacta	ggaacagttg	ctttgccagt	tacaccagtg	4920
gtcacacctg	ggcaagtttc	taccccgatc	agcactacta	catcaggagt	gaaacctgga	4980
actgctccct	ccaagccacc	tctaactaag	gctccgggtgc	tgccagtggtg	tactgaactt	5040
ccagcaggta	ctctaccagc	cgagcagctg	ccaccttttc	caggaccttc	tctaaccagc	5100
tcccagcaac	ctctagaggga	tcttgatgct	caattgagaa	gaacacttag	tccagagatk	5160
atcacagtga	cttctgcggt	tggctcgtgtg	tccatggcgg	ctccaacagc	aatcacagaa	5220
gcaggaacac	agcctcagaa	gggtgtttct	caagtcaaag	aaggccctgt	cctagcaact	5280
agttcaggag	ctgggtgtttt	taagatggga	cgatttcagg	tttctgttgc	agcagacggt	5340
gcccagaaag	agggtaaaaa	taagtcagaa	gatgcaaagt	ctgttcattt	tgaatccagc	5400
acctcagagt	cctcagtgct	atcaagtagt	agtccagaga	gtaccttggt	gaaaccagag	5460
ccgaatggca	taaccatccc	tggtatctct	tcagatgtgc	cagagagtgc	ccacaaaact	5520
actgcctcag	aggcaaaagtc	agacactggg	cagcctacca	aggttgagcg	ttttcagggtg	5580
acaactacag	caaacaaagt	gggtcgtttc	tctgtatcaa	aaactgagga	caagatcact	5640
gacacaaaga	aagaaggacc	agtggtcctc	cctcctttta	tggatttggg	acaagctggt	5700
cttctctgctg	tgataccaaa	gaaagagaag	cctgaactgt	cagagccttc	acatctaaat	5760
gggccgtctt	ctgacccgga	ggccgctttt	ttaagtaggg	atgtggatga	tggttccggt	5820
agtcacact	cgccccatca	gctgagctca	aagagccttc	ctagccagaa	tctaagtcaa	5880
agccttagta	attcatttta	ctcctcttac	atgagttagc	acaatgagtc	agatatcgaa	5940
gatgaagact	taaagttaga	gctgcgacga	ctacgagata	aacatctcaa	agagattcag	6000
gacctgcaga	gtcgccagaa	gcatgaaatt	gaatctttgt	ataccaaaact	gggcaagggtg	6060
ccccctgctg	ttattattcc	cccagctgct	cccctttcag	ggagaagacg	acgacccact	6120
aaaagcaaa	gcagcaaatc	tagtcgaagc	agttccttgg	ggaataaaa	ccccagctt	6180
ttaggttaacc	tgtctgggtca	gagtgcagct	tcagtccttg	acccccagca	gacctccac	6240
cctcctggca	acatcccaga	gtccgggcag	aatcagctgt	tacagcccct	taagccatct	6300
ccctccagtg	acaacctcta	ttcagccttc	accagtgatg	gtgccatttc	agtaccaagc	6360
ctttctgctc	caggtcaagg	aaccagcagc	acaaacactg	ttggggcaac	agtgaacagc	6420
caagccgccc	aagctcagcc	tcttgccatg	acgtccagca	ggaagggcac	attcacagat	6480
gacttgacaca	agttggtaga	caattggggc	cgagatgcca	tgaatctctc	aggcaggaga	6540
ggaagcaaa	ggcacatgaa	ttatgagggc	cctggaatgg	caaggaagtt	ctctgcacct	6600
gggcaactgt	gcatctccat	gacctcgaac	ctgggtggct	ctgcccccat	ctctgcagca	6660
tcagctacct	ctctaggtca	cttcaccaag	tctatgtgcc	ccccacagca	gtatggcttt	6720
ccagctaccc	catttggcgc	tcaatggagt	gggacgggtg	gcccagcacc	acagccactt	6780
ggccagttcc	aacctgtggg	aactgcctcc	ttgcagaatt	tcaacatcag	caatttgcag	6840
aaatccatca	gcaaccccc	aggtcccaac	ctgcggaaca	cttag		6885

<210> 50
 <211> 2294
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2294)
 <223> Xaa = Any Amino Acid

<400> 50

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
				85					90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260						265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275					280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290					295					300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355					360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420					425					430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435					440					445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe

450	Ser Phe Asp Leu Glu Arg	455	Asp Val Pro Glu Asp	460	Val Ala Gln Glu Met
465	Val Glu Ser Gly Tyr Val	470	Cys Glu Gly Asp His	475	Lys Thr Met Ala Lys
	485		490		495
Ala Ile Lys Asp Arg Val	Ser Leu Ile Lys Arg	Lys Arg Lys Arg	Glu Gln Arg		
	500		505		510
Gln Leu Val Arg Glu Glu	Gln Glu Lys Lys Lys	Gln Glu Glu Ser Ser			
	515		520		525
Leu Lys Gln Gln Val Glu	Gln Ser Ser Ala Ser	Gln Thr Gly Ile Lys			
	530		535		540
Gln Leu Pro Ser Ala Ser	Thr Gly Ile Pro Thr	Ala Ser Thr Thr Ser			
545		550		555	560
Ala Ser Val Ser Thr Gln	Val Glu Pro Glu Glu	Pro Glu Ala Asp Gln			
	565		570		575
His Gln Gln Leu Gln Tyr	Gln Gln Pro Ser Ile	Ser Val Leu Ser Asp			
	580		585		590
Gly Thr Val Asp Ser Gly	Gln Gly Ser Ser Val	Phe Thr Glu Ser Arg			
	595		600		605
Val Ser Ser Gln Gln Thr	Val Ser Tyr Gly Ser	Gln His Glu Gln Ala			
	610		615		620
His Ser Thr Gly Thr Val	Pro Gly His Ile Pro	Ser Thr Val Gln Ala			
625		630		635	640
Gln Ser Gln Pro His Gly	Val Tyr Pro Pro Ser	Ser Val Gln Gln Gly			
	645		650		655
Ile Gln Gln Thr Ala Pro	Pro Gln Gln Thr Val	Gln Tyr Ser Leu Ser			
	660		665		670
Gln Thr Ser Thr Ser Ser	Glu Ala Thr Thr Ala	Gln Pro Val Ser Gln			
	675		680		685
Pro Gln Ala Pro Gln Val	Leu Pro Gln Val Ser	Ala Gly Lys Gln Leu			
	690		695		700
Pro Val Ser Gln Pro Val	Pro Thr Ile Gln Gly	Glu Pro Gln Ile Pro			
705		710		715	720
Val Ala Thr Gln Pro Ser	Val Val Pro Val His	Ser Gly Ala His Phe			
	725		730		735
Leu Pro Val Gly Gln Pro	Leu Pro Thr Pro Leu	Leu Pro Gln Tyr Pro			
	740		745		750
Val Ser Gln Ile Pro Ile	Ser Thr Pro His Val	Ser Thr Ala Gln Thr			
	755		760		765
Gly Phe Ser Ser Leu Pro	Ile Thr Met Ala Ala	Gly Ile Thr Gln Pro			
	770		775		780
Leu Leu Thr Leu Ala Ser	Ser Ala Thr Thr Ala	Ile Pro Gly Val			
785		790		795	800
Ser Thr Val Val Pro Ser	Gln Leu Pro Thr Leu	Leu Gln Pro Val Thr			
	805		810		815
Gln Leu Pro Ser Gln Val	His Pro Gln Leu Leu	Gln Pro Ala Val Gln			
	820		825		830
Ser Met Gly Ile Pro Ala	Asn Leu Gly Gln Ala	Ala Glu Val Pro Leu			
	835		840		845
Ser Ser Gly Asp Val Leu	Tyr Gln Gly Phe Pro	Pro Arg Leu Pro Pro			
	850		855		860
Gln Tyr Pro Gly Asp Ser	Asn Ile Ala Pro Ser	Ser Ser Asn Val Ala			
865		870		875	880
Val Cys Ile His Ser Thr	Val Leu Xaa Pro Pro	Met Pro Thr Glu Val			
	885		890		895
Leu Ala Thr Pro Gly Tyr	Phe Pro Thr Val Val	Gln Pro Tyr Val Glu			
	900		905		910
Ser Asn Leu Leu Val Pro	Met Gly Gly Val Gly	Gly Gln Val Gln Val			
	915		920		925
Ser Gln Pro Gly Gly Ser	Leu Ala Gln Ala Pro	Thr Thr Ser Ser Gln			
	930		935		940
Gln Ala Val Leu Glu Ser	Thr Gln Gly Val Ser	Gln Val Ala Pro Ala			
945		950		955	960

Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu
				965					970					975	
Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser
			980					985					990		
Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg
		995				1000					1005				
Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His
	1010					1015				1020					
Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys
1025					1030					1035					1040
Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met
			1045						1050					1055	
Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala
			1060					1065					1070		
Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser
		1075					1080					1085			
Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu
	1090					1095					1100				
Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser
1105					1110					1115					1120
Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu
			1125						1130					1135	
Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile
			1140					1145					1150		
Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln	Val	Val	His	Ser	Ala	Gly	Arg
		1155					1160					1165			
Arg	Phe	Ile	Val	Ser	Pro	Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu	Ser	Lys
	1170					1175					1180				
Val	Phe	Pro	Ser	Glu	Ile	Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr	Ala	Gln
1185					1190					1195					1200
Ser	Pro	Gly	Met	Asn	Leu	Ser	His	Ser	Ala	Ser	Ser	Leu	Ser	Leu	Gln
			1205						1210					1215	
Gln	Ala	Phe	Ser	Glu	Leu	Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly	Pro	Asn
			1220					1225					1230		
Thr	Ala	Pro	Pro	Asn	Phe	Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	Val	Val
		1235					1240					1245			
Pro	Pro	Phe	Leu	Ser	Ser	Ile	Ala	Gly	Val	Pro	Thr	Thr	Ala	Ala	Ala
	1250					1255					1260				
Thr	Ala	Pro	Val	Pro	Ala	Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile	Ser	Thr
1265					1270					1275					1280
Ser	Val	Ile	Gln	Ser	Glu	Val	Thr	Val	Pro	Thr	Glu	Glu	Gly	Ile	Ala
			1285						1290					1295	
Gly	Val	Ala	Thr	Ser	Thr	Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile
		1300						1305					1310		
Pro	Pro	Val	Ser	Glu	Ser	Pro	Val	Leu	Ser	Ser	Val	Val	Ser	Ser	Ile
		1315					1320					1325			
Thr	Ile	Pro	Ala	Val	Val	Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln
	1330					1335					1340				
Val	Pro	Thr	Ser	Thr	Ser	Glu	Ile	Val	Val	Ser	Ser	Thr	Ala	Leu	Tyr
1345					1350					1355					1360
Pro	Ser	Val	Thr	Val	Ser	Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr
			1365					1370					1375		
Ala	Thr	Pro	Gly	Pro	Lys	Pro	Pro	Ala	Val	Val	Ser	Gln	Gln	Ala	Ala
			1380					1385					1390		
Gly	Ser	Thr	Thr	Val	Gly	Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr
		1395					1400					1405			
Ser	Phe	Pro	Ser	Thr	Ala	Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser
	1410					1415					1420				
Thr	Ser	Thr	Pro	Thr	Leu	Ala	Glu	Thr	Val	Val	Val	Ser	Ala	His	Ser
1425					1430					1435					1440
Leu	Asp	Lys	Thr	Ser	His	Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu
			1445						1450					1455	
Ser	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr

Ile	Ser	Gln	Pro	Gly	Gly	Leu	His	Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	1460	1465	1470
Ala	Ser	Thr	Pro	Ile	Leu	Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	1475	1480	1485
Leu	Leu	Pro	Gln	Val	Pro	Ser	Ile	Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	1490	1495	1500
Asn	Val	Pro	Ala	Val	Gln	Gln	Thr	Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	1505	1510	1515
Ala	Leu	Leu	Pro	Asn	Gln	Pro	His	Thr	His	Cys	Pro	Glu	Val	Asp	Ser	1525	1530	1535
Asp	Thr	Gln	Pro	Lys	Ala	Pro	Gly	Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	1540	1545	1550
Glu	Lys	Leu	Arg	Ser	Leu	Phe	Ser	Glu	His	Ser	Ser	Ser	Gly	Ala	Gln	1555	1560	1565
His	Ala	Ser	Val	Ser	Leu	Glu	Thr	Ser	Leu	Val	Ile	Glu	Ser	Thr	Val	1570	1575	1580
Thr	Pro	Gly	Ile	Pro	Thr	Thr	Ala	Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	1585	1590	1595
Ser	Thr	Thr	Ser	Thr	Cys	Leu	Pro	Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	1605	1610	1615
Val	Ala	Leu	Pro	Val	Thr	Pro	Val	Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	1620	1625	1630
Pro	Val	Ser	Thr	Thr	Thr	Ser	Gly	Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	1635	1640	1645
Lys	Pro	Pro	Leu	Thr	Lys	Ala	Pro	Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	1650	1655	1660
Pro	Ala	Gly	Thr	Leu	Pro	Ser	Glu	Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	1665	1670	1675
Ser	Leu	Thr	Gln	Ser	Gln	Gln	Pro	Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	1685	1690	1695
Arg	Arg	Thr	Leu	Ser	Pro	Glu	Xaa	Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	1700	1705	1710
Pro	Val	Ser	Met	Ala	Ala	Pro	Thr	Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	1715	1720	1725
Pro	Gln	Lys	Gly	Val	Ser	Gln	Val	Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	1730	1735	1740
Ser	Ser	Gly	Ala	Gly	Val	Phe	Lys	Met	Gly	Arg	Phe	Gln	Val	Ser	Val	1745	1750	1755
Ala	Ala	Asp	Gly	Ala	Gln	Lys	Glu	Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	1765	1770	1775
Lys	Ser	Val	His	Phe	Glu	Ser	Ser	Thr	Ser	Glu	Ser	Ser	Val	Leu	Ser	1780	1785	1790
Ser	Ser	Pro	Glu	Ser	Thr	Leu	Val	Lys	Pro	Glu	Pro	Asn	Gly	Ile		1795	1800	1805
Thr	Ile	Pro	Gly	Ile	Ser	Ser	Asp	Val	Pro	Glu	Ser	Ala	His	Lys	Thr	1810	1815	1820
Thr	Ala	Ser	Glu	Ala	Lys	Ser	Asp	Thr	Gly	Gln	Pro	Thr	Lys	Val	Gly	1825	1830	1835
Arg	Phe	Gln	Val	Thr	Thr	Ala	Asn	Lys	Val	Gly	Arg	Phe	Ser	Val		1845	1850	1855
Ser	Lys	Thr	Glu	Asp	Lys	Ile	Thr	Asp	Thr	Lys	Lys	Glu	Gly	Pro	Val	1860	1865	1870
Ala	Ser	Pro	Pro	Phe	Met	Asp	Leu	Glu	Gln	Ala	Val	Leu	Pro	Ala	Val	1875	1880	1885
Ile	Pro	Lys	Lys	Glu	Lys	Pro	Glu	Leu	Ser	Glu	Pro	Ser	His	Leu	Asn	1890	1895	1900
Gly	Pro	Ser	Ser	Asp	Pro	Glu	Ala	Ala	Phe	Leu	Ser	Arg	Asp	Val	Asp	1905	1910	1915
Asp	Gly	Ser	Gly	Ser	Pro	His	Ser	Pro	His	Gln	Leu	Ser	Ser	Lys	Ser	1925	1930	1935
Leu	Pro	Ser	Gln	Asn	Leu	Ser	Gln	Ser	Leu	Ser	Asn	Ser	Phe	Asn	Ser	1940	1945	1950
																1955	1960	1965

Ser Tyr Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu
1970 1975 1980
Lys Leu Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln
1985 1990 1995 2000
Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys
2005 2010 2015
Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu
2020 2025 2030
Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser
2035 2040 2045
Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu
2050 2055 2060
Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His
2065 2070 2075 2080
Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro
2085 2090 2095
Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser
2100 2105 2110
Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr
2115 2120 2125
Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala Ala Gln
2130 2135 2140
Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp
2145 2150 2155 2160
Asp Leu His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala Met Asn Leu
2165 2170 2175
Ser Gly Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu Gly Pro Gly
2180 2185 2190
Met Ala Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser Met Thr
2195 2200 2205
Ser Asn Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser
2210 2215 2220
Leu Gly His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe
2225 2230 2235 2240
Pro Ala Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala
2245 2250 2255
Pro Gln Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala Ser Leu Gln
2260 2265 2270
Asn Phe Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro Pro Gly
2275 2280 2285
Ser Asn Leu Arg Thr Thr
2290

<210> 51
<211> 6474
<212> DNA
<213> Homo sapiens

<400> 51
atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc 60
cgccggagcg tcactctgca ctccaatgcc actgcactgg agcttcccgg ccttctcttt 120
tccctgcccc agcccagcat ccccgcggt gtcccgaga gtgctccacc ggagccccac 180
cggaagaga ccgtgaccgc caccgccact tccaggtag ccagcagcc tccagccgct 240
gccgcccctg gggaacaggg cgtcgcgggc cctgccccct cgactgtccc cagcagtacc 300
agcaaagacc gccagtgct ccagcctagc cttgtgggga gcaaagagga gccgccgccg 360
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
ctcaagtttg acatcgaaat cggcagaggc tcctttaaga cggctctaaa aggtctggac 540
actgaaacca ccgtggaagt cgcctggtgt gaactgcagg atcgaaaatt aacaaagtct 600
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
gttagatatt atgattcctg ggaatccaca gtaaaaggaa agaagtgcag tggttttggtg 720
actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttaa agtgatgaag 780
atcaaagttc taagaagctg gtgccgtcag atccttaaa gtcttcagtt tcttcatact 840

cgaactccac	ctatcattca	ccgcgatcct	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcgg	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgcacaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacctatg	cttcttccaa	1260
gaggaacacg	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctatttgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtagtctct	tgaaggatgt	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcag	tggtagggga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatat	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacccagtat	atctgtgtta	tctgatggga	cgggtgacag	tggtcagggg	1800
tcctctgtct	tcacagaatc	tcgagttagc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	tacctttctac	tgtccaagca	1920
cagttctcag	cccatggggg	atatccaccc	tcaagtgtgc	agcaggggat	acagcagaca	1980
gcccctcctc	aacagacagt	gcagatttca	cttccacaga	catcaacctc	cagtggggcc	2040
actactgcac	agccagttag	tcagcctcaa	gtccacacaag	tcttgccctca	agtatcagct	2100
ggaaaacagc	ttccagtttc	ccagccagta	ccaactatcc	aaggcgaacc	tcagatccca	2160
gttgcgacac	aacctctcgg	tgttccagtc	cactctgggtg	ctcatttctc	tcagtgggga	2220
cagccgctcc	ctactccctt	gtccctcag	tacctgtct	ctcagattcc	catatcaact	2280
cctcatgtgt	ctacggctca	gacaggtttc	tcattcccttc	ccatcacaa	ggcagctggc	2340
attactcagc	ctctgtcac	gttggttca	tctgtcaca	cagctgcgat	ccggggggtg	2400
tcaactgtgg	ttcctagtca	gcttccaacc	cttctgcagc	ctgtgactca	gctgccaggt	2460
caggttcacc	cacagctcct	acaaccagca	gttcagtcca	tgggaatacc	agctaacctt	2520
ggacaagctg	ctgaggttcc	actttcctct	ggagatgttc	tgtaccaggg	cttcccacct	2580
cgactgccac	cacagtagcc	aggagattca	aatattgtct	cctcttccaa	cgtggcttct	2640
gtttgcaccc	attctacagt	cctawccctt	cccattgccga	cagaagtact	ggctacacct	2700
gggtactttc	ccacagtggg	gcagccttat	gtggaatcaa	atcttttagt	tcctatgggt	2760
gggttaggag	gacaggttca	agtgtcccag	ccaggtagga	gttttagcaca	agccccact	2820
acatcctccc	agcaagcagt	tttgagagag	actcagggag	tctctcaggt	tgctcctgca	2880
gagccagttg	cagtagcaca	gccccaaagt	accagccga	ccactttggc	ttcctctgta	2940
gacagtgcac	attcagatgt	tgcttcaggt	atgagtgtat	gcaatgagaa	cgtcccatct	3000
tcagtggaag	ggcatgaagg	aagaactaca	aaacggcatt	accgaaaatc	tgtaaggagt	3060
gcgtctcgac	atgaaaaaac	ttcacgcccc	aaattaagaa	ttttgaatgt	ttcaaatata	3120
ggagaccgag	tcaattagag	tcaattagag	actcataata	ggaaaatggg	tacattcaaa	3180
tttgacctag	atgggtgaaa	ccccgaggag	atagcaacaa	ttatgggtgaa	caatgacttt	3240
attctagcaa	tagagagaga	gtcgtttgtg	gatcaagtgc	gagaaattat	tgaaaaagct	3300
gatgaaatgc	tcagttagga	tgtagagtgt	gaaccagagg	gtgatcaggg	attggagagt	3360
ctacaaggaa	aggatgacta	tggcttttca	ggttctcaga	aattggaagg	agagttcaaa	3420
caaccaattc	ctgcgtcttc	catgccacag	caaattaggca	ttctaccag	ttctttaact	3480
caagtgtgtc	attctgcggg	aaggcgggtt	atagtgatc	ctgtgccaga	aagccgatta	3540
cgagaatcaa	aagttttccc	cagtgaataa	acagatacag	ttgtgtcctc	tacagctcag	3600
agccctggaa	tgaacttgct	tcactctgca	tcactccctt	gtctacaaca	ggccttttct	3660
gaacttagac	gtgccccaat	gacagaagga	cccaayacag	cacctccaaa	cttttagtcat	3720
acaggaccaa	catttccagt	agtacctcct	ttcttaagta	gcattgctgg	agtcccaacc	3780
acagcagcag	ccacagcacc	agtccttgca	acaagcagcc	ctcctaata	catttccaca	3840
tcagtaattc	agtctgaggt	tacagtggcc	actgaagagg	ggattgctgg	agttgccacc	3900
agcacagggtg	tggttaacttc	aggtggtctc	cccataccac	ctgtgtctga	atcaccagta	3960
ctttccagcg	tagtttcaag	tatcacata	cctgcagttg	tctcaatata	tactacatcc	4020
ccgtcacttc	aagtccccac	atccacatct	gagatcggtg	tttctagtac	agcactgtat	4080
ccttcagtaa	cagtttcagc	aacttcagcc	tctgcagggg	gcagtactgc	taccccaggt	4140
cctaagcctc	cagctgtagt	atctcagcag	gcagcaggca	gcactactgt	gggagccaca	4200
ttaacatcag	ttctaccac	cacttcattc	ccaagcacag	cttcacagct	gtccattcag	4260
cttagcagca	gtacttctac	tcctacttta	gctgaaaccg	tggtagttag	cgcacactca	4320
ctagataaga	catctcatag	cagtacaact	ggattggctt	tctccctctc	tgcaccatct	4380
tcctcttctc	ctcctggagc	aggagtgtct	agttatattt	ctcagcctgg	tgggctgcat	4440
cctttgggtca	ttccatcagt	gatagcttct	actcctattc	ttccccaagc	agcaggacct	4500
acttctacac	ctttattacc	ccaagtacct	agtatccac	ccttggtaca	gcctgttgcc	4560
aatgttctcg	ctgtacagca	gacactaatt	catagtccag	ctcaaccagc	tttgcttccc	4620

```

aaccagcccc atactcattg tcttgaagta gattctgata cacaacccaa agctcctgga 4680
attgatgaca taaagactct agaagaaaag ctgcgggtctc tgttcagtga acacagctca 4740
tctggagctc agcatgcctc tgtctcactg gagacctcac tagtcataga gagcactgtc 4800
acaccaggca tcccaactac tgctgttgca ccaagcaaac tcttgacttc taccacaagt 4860
acttgcttac caccaaccaa tttaccacta ggaacagttg ctttgccagt tacaccagtg 4920
gtcacacctg ggcaagtttc taccacagtc agcactacta catcaggagt gaaacctgga 4980
actgctccct ccaagccacc tctaactaag gctccgggtgc tgccagtggg tactgaactt 5040
ccagcaggta ctctaccag cgagcagctg ccaccttttc caggaccttc tctaaccag 5100
tcccagcaac ctctagagga tcttgatgct caattgagaa gaacacttag tccagagatk 5160
atcacagtga cttctgcggt tggctcctgtg tccatggcgg ctccaacagc aatcacagaa 5220
gcaggaacac agcctcagaa ggggtgtttct caagtcaaag aaggccctgt cctagcaact 5280
agttcaggag ctgggtgtttt taagatggga cgatttcagg tttctgttgc agcagacggt 5340
gcccagaaag agggtaaaaa taagtcagaa gatgcaaagt ctggtcattt tgaatccagc 5400
acctcagagt cctcagtgtc atcaagtagt agtccagaga gtaccttggg gaaaccagag 5460
ccgaatggca taaccatccc tggatatctc tcagatgtgc cagagagtgc ccacaaaact 5520
actgcctcag aggcacagtc agacactggg cagcctacca aggttggacg ttttcagggtg 5580
acaactacag caaacaaggt gggctcgtttc tctgtatcaa aaactgagga caagatcact 5640
gacacaaaga aagaaggacc agtggcatct cctcctttta tggatttggg acaagctggt 5700
cttctctgctg tgataccaaa gaaagagaag cctgaactgt cagagccttc acatctaaat 5760
gggcccgtctt ctgacccgga ggccgctttt ttaagttagg atgtggatga tgggtccggt 5820
agtccacact cgccccatca gctgagctca aagagccttc ctagccagaa tctaagtcaa 5880
agccttagta attcatttaa ctctctttac atgagttagc acaatgagtc agatatcgaa 5940
gatgaagact taaagttaga gctgcgacga ctacgagata aacatctcaa agagattcag 6000
gacctgcaga gtcgccagaa gcatgaaatt gaatctttgt ataccaaaact gggcaagggtg 6060
ccccctgctg ttattattcc cccagctgct cccctttcag ggagaagacg acgacccact 6120
aaaagcaaa gcaagcaaatc tagtcgaagc agttccttgg ggaataaaaag cccccagctt 6180
tcaggtaacc tgtctgggtca gactgcagtc tcaagtcttc acccccagca gacctccac 6240
cctcctggca acatcccaga gtccggggcag aatcagctgt tacagcccct taagccatct 6300
ccctccagtg acaacctcta ttcagccttc accagtgatg gtgccatttc agtaccaagc 6360
ctttctgctc cagggtcaagg aataaagcaa ccatcatcgt ccaaaaacaa taaaatggag 6420
atgttgccat acctgggaca aaagcctggt aaggcggggtt gggagactag ctga 6474

```

<210> 52
 <211> 2157
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2157)
 <223> Xaa = Any Amino Acid

<400> 52

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
		20						25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
		50				55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
		65			70				75					80	
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85					90					95		
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105				110			
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115				120					125				
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
		130				135					140				

Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
				165					170						175
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210				215						220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
				245					250						255
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
			260					265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
			275				280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290					295					300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
				325					330						335
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355				360						365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410						415
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420				425						430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435					440						445		
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450					455					460				
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
				485					490						495
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
			500					505					510		
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
		530				535						540			
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
				565						570					575
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
		595				600						605			
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala
	610					615					620				
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala
625					630					635					640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly

Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	645	650	655
				660				665						670				
Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln			
		675					680					685						
Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu			
	690					695					700							
Pro	Val	Ser	Gln	Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro			
705					710					715					720			
Val	Ala	Thr	Gln	Pro	Ser	Val	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe			
				725					730						735			
Leu	Pro	Val	Gly	Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro			
			740					745						750				
Val	Ser	Gln	Ile	Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr			
		755					760						765					
Gly	Phe	Ser	Ser	Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro			
	770					775					780							
Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val			
785					790					795					800			
Ser	Thr	Val	Val	Pro	Ser	Gln	Leu	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr			
				805					810						815			
Gln	Leu	Pro	Ser	Gln	Val	His	Pro	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln			
			820					825					830					
Ser	Met	Gly	Ile	Pro	Ala	Asn	Leu	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu			
	835					840						845						
Ser	Ser	Gly	Asp	Val	Leu	Tyr	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro			
	850					855					860							
Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser			
865					870					875					880			
Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Pro	Met	Pro	Thr	Glu	Val			
				885					890						895			
Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr	Val	Val	Gln	Pro	Tyr	Val	Glu			
			900					905					910					
Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly	Val	Gly	Gly	Gln	Val	Gln	Val			
	915						920					925						
Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln			
	930					935					940							
Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala			
945					950					955					960			
Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu			
			965						970						975			
Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser			
			980					985					990					
Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg				
	995					1000					1005							
Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His			
	1010					1015					1020							
Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys			
1025					1030					1035					1040			
Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met			
			1045						1050					1055				
Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala			
			1060					1065					1070					
Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser			
	1075					1080						1085						
Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu			
	1090					1095					1100							
Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser			
1105					1110					1115					1120			
Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu			
			1125						1130						1135			
Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile			
			1140					1145						1150				

Gly Ile Pro Thr Ser Ser Leu Thr Gln Val Val His Ser Ala Gly Arg	1155	1160	1165
Arg Phe Ile Val Ser Pro Val Pro Glu Ser Arg Leu Arg Glu Ser Lys	1170	1175	1180
Val Phe Pro Ser Glu Ile Thr Asp Thr Val Ala Ala Ser Thr Ala Gln	1185	1190	1195
Ser Pro Gly Met Asn Leu Ser His Ser Ala Ser Ser Leu Ser Leu Gln	1205	1210	1215
Gln Ala Phe Ser Glu Leu Arg Arg Ala Gln Met Thr Glu Gly Pro Asn	1220	1225	1230
Thr Ala Pro Pro Asn Phe Ser His Thr Gly Pro Thr Phe Pro Val Val	1235	1240	1245
Pro Pro Phe Leu Ser Ser Ile Ala Gly Val Pro Thr Thr Ala Ala Ala	1250	1255	1260
Thr Ala Pro Val Pro Ala Thr Ser Ser Pro Pro Asn Asp Ile Ser Thr	1265	1270	1275
Ser Val Ile Gln Ser Glu Val Thr Val Pro Thr Glu Glu Gly Ile Ala	1285	1290	1295
Gly Val Ala Thr Ser Thr Gly Val Val Thr Ser Gly Gly Leu Pro Ile	1300	1305	1310
Pro Pro Val Ser Glu Ser Pro Val Leu Ser Ser Val Val Ser Ser Ile	1315	1320	1325
Thr Ile Pro Ala Val Val Ser Ile Ser Thr Thr Ser Pro Ser Leu Gln	1330	1335	1340
Val Pro Thr Ser Thr Ser Glu Ile Val Val Ser Ser Thr Ala Leu Tyr	1345	1350	1355
Pro Ser Val Thr Val Ser Ala Thr Ser Ala Ser Ala Gly Gly Ser Thr	1365	1370	1375
Ala Thr Pro Gly Pro Lys Pro Pro Ala Val Val Ser Gln Gln Ala Ala	1380	1385	1390
Gly Ser Thr Thr Val Gly Ala Thr Leu Thr Ser Val Ser Thr Thr Thr	1395	1400	1405
Ser Phe Pro Ser Thr Ala Ser Gln Leu Ser Ile Gln Leu Ser Ser Ser	1410	1415	1420
Thr Ser Thr Pro Thr Leu Ala Glu Thr Val Val Val Ser Ala His Ser	1425	1430	1435
Leu Asp Lys Thr Ser His Ser Ser Thr Thr Gly Leu Ala Phe Ser Leu	1445	1450	1455
Ser Ala Pro Ser Ser Ser Ser Pro Gly Ala Gly Val Ser Ser Tyr	1460	1465	1470
Ile Ser Gln Pro Gly Gly Leu His Pro Leu Val Ile Pro Ser Val Ile	1475	1480	1485
Ala Ser Thr Pro Ile Leu Pro Gln Ala Ala Gly Pro Thr Ser Thr Pro	1490	1495	1500
Leu Leu Pro Gln Val Pro Ser Ile Pro Pro Leu Val Gln Pro Val Ala	1505	1510	1515
Asn Val Pro Ala Val Gln Gln Thr Leu Ile His Ser Gln Pro Gln Pro	1525	1530	1535
Ala Leu Leu Pro Asn Gln Pro His Thr His Cys Pro Glu Val Asp Ser	1540	1545	1550
Asp Thr Gln Pro Lys Ala Pro Gly Ile Asp Asp Ile Lys Thr Leu Glu	1555	1560	1565
Glu Lys Leu Arg Ser Leu Phe Ser Glu His Ser Ser Ser Gly Ala Gln	1570	1575	1580
His Ala Ser Val Ser Leu Glu Thr Ser Leu Val Ile Glu Ser Thr Val	1585	1590	1595
Thr Pro Gly Ile Pro Thr Thr Ala Val Ala Pro Ser Lys Leu Leu Thr	1605	1610	1615
Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr Asn Leu Pro Leu Gly Thr	1620	1625	1630
Val Ala Leu Pro Val Thr Pro Val Val Thr Pro Gly Gln Val Ser Thr	1635	1640	1645
Pro Val Ser Thr Thr Thr Ser Gly Val Lys Pro Gly Thr Ala Pro Ser			

1650		1655		1660
Lys Pro Pro Leu Thr	Lys Ala Pro Val Leu	Pro Val Gly Thr Glu Leu		
1665	1670	1675		1680
Pro Ala Gly Thr Leu	Pro Ser Glu Gln Leu	Pro Pro Phe Pro Gly Pro		
	1685	1690		1695
Ser Leu Thr Gln Ser Gln	Pro Leu Glu Asp Leu	Asp Ala Gln Leu		
	1700	1705		1710
Arg Arg Thr Leu Ser Pro	Glu Xaa Ile Thr Val	Thr Ser Ala Val Gly		
	1715	1720		1725
Pro Val Ser Met Ala Ala	Pro Thr Ala Ile Thr	Glu Ala Gly Thr Gln		
	1730	1735		1740
Pro Gln Lys Gly Val Ser	Gln Val Lys Glu Gly	Pro Val Leu Ala Thr		
1745	1750	1755		1760
Ser Ser Gly Ala Gly Val	Phe Lys Met Gly Arg	Phe Gln Val Ser Val		
	1765	1770		1775
Ala Ala Asp Gly Ala Gln	Lys Glu Gly Lys Asn	Lys Ser Glu Asp Ala		
	1780	1785		1790
Lys Ser Val His Phe Glu	Ser Ser Thr Ser Glu	Ser Ser Val Leu Ser		
	1795	1800		1805
Ser Ser Ser Pro Glu Ser	Thr Leu Val Lys Pro	Glu Pro Asn Gly Ile		
	1810	1815		1820
Thr Ile Pro Gly Ile Ser	Ser Ser Asp Val Pro	Glu Ser Ala His Lys Thr		
1825	1830	1835		1840
Thr Ala Ser Glu Ala Lys	Ser Ser Asp Thr Gly	Gln Pro Thr Lys Val Gly		
	1845	1850		1855
Arg Phe Gln Val Thr Thr	Ala Asn Lys Val Gly	Arg Phe Ser Val		
	1860	1865		1870
Ser Lys Thr Glu Asp Lys	Ile Thr Asp Thr Lys	Lys Glu Gly Pro Val		
	1875	1880		1885
Ala Ser Pro Pro Phe Met	Asp Leu Glu Gln Ala	Val Leu Pro Ala Val		
	1890	1895		1900
Ile Pro Lys Lys Glu Lys	Pro Glu Leu Ser Glu	Pro Ser His Leu Asn		
1905	1910	1915		1920
Gly Pro Ser Ser Asp Pro	Glu Ala Ala Phe Leu	Ser Arg Asp Val Asp		
	1925	1930		1935
Asp Gly Ser Gly Ser Pro	His Ser Pro His Gln	Leu Ser Ser Lys Ser		
	1940	1945		1950
Leu Pro Ser Gln Asn Leu	Ser Gln Ser Leu Ser	Asn Ser Phe Asn Ser		
	1955	1960		1965
Ser Tyr Met Ser Ser Asp	Asn Glu Ser Asp Ile	Glu Asp Glu Asp Leu		
	1970	1975		1980
Lys Leu Glu Leu Arg Arg	Leu Arg Asp Lys His	Leu Lys Glu Ile Gln		
1985	1990	1995		2000
Asp Leu Gln Ser Arg Gln	Lys His Glu Ile Glu	Ser Leu Tyr Thr Lys		
	2005	2010		2015
Leu Gly Lys Val Pro Pro	Ala Val Ile Ile Pro	Pro Ala Ala Pro Leu		
	2020	2025		2030
Ser Gly Arg Arg Arg Arg	Pro Thr Lys Ser Lys	Gly Ser Lys Ser Ser		
	2035	2040		2045
Arg Ser Ser Ser Leu Gly	Asn Lys Ser Pro Gln	Leu Ser Gly Asn Leu		
	2050	2055		2060
Ser Gly Gln Ser Ala Ala	Ser Val Leu His Pro	Gln Gln Thr Leu His		
2065	2070	2075		2080
Pro Pro Gly Asn Ile Pro	Glu Ser Gly Gln Asn	Gln Leu Leu Gln Pro		
	2085	2090		2095
Leu Lys Pro Ser Pro Ser	Ser Asp Asn Leu Tyr	Ser Ala Phe Thr Ser		
	2100	2105		2110
Asp Gly Ala Ile Ser Val	Pro Ser Leu Ser Ala	Pro Gly Gln Gly Ile		
	2115	2120		2125
Lys Gln Pro Ser Ser Ser	Lys Asn Asn Lys Met	Glu Met Leu Pro Tyr		
	2130	2135		2140
Leu Gly Gln Lys Pro Val	Lys Ala Gly Trp Glu	Thr Ser		
2145	2150	2155		

<210> 53
 <211> 2685
 <212> DNA
 <213> Homo sapiens

```

<400> 53
atggacaagg acagccgtgg ggcgcccgcg accactacca ccaactgagca ccgcttcttc 60
cgccggagcg tcattctgca ctccaatgcc actgcactgg agcttcccgg ccttcctctt 120
tccttgcccc agcccagcat ccccgcggtt gtcccgcaga gtgtccacc ggagccccac 180
cggaagaga ccgtgaccgc caccgccact tcccaggtag ccagcagcc tccagccgct 240
gccgccccctg gggaacaggc cgtcgcggtt cctgccccct cgactgtccc cagcagtacc 300
agcaaagacc gccagtgctc ccagcctagc cttgtgggga gcaaagagga gccgcccggc 360
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
ctcaagtttg acatcgaaat cggcagaggt tcccttaaga cgggtctaca aggtctggac 540
actgaaacca ccgtggaagt cgctgtgtgt gaactgcagg atcgaaaatt aacaaagtct 600
gagaggcaga gatttaaaag agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcac tgttttggtg 720
actgaactta tgacgtctgg aacacttaaa acgtatctga aaaggtttta agtgatgaag 780
atcaaagttc taagaagctg gtgcccgtcag atccttaaaag gtcttcagtt tcttcatact 840
cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
actggctcag tcaagattgg agacctcggc ctggcaaccc tgaagcgggc ttcttttgcc 960
aagagtgtga taggtacccc agagttcatg gccctgaga tgtatgagga gaaatatgat 1020
gaatccgttg acgtttatgc ttttgggatg tgcattgttg agatggctac atctgaatat 1080
ccttactcgg agtgccaaaa tgctgcacag atctaccgtc gcgtgaccag tggggtgaag 1140
ccagccagtt ttgacaaggt agcaattcct gaagtgaagg aaattattga aggatgcata 1200
cgaaaaaaca aagatgaaag atattccatc gaagaagatg atggagaaaa aatagccata 1260
gaggaaacag gagtacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
aaattatggc tacgtattga agatattaag aaattaagg gaaaatacaa agataatgaa 1380
gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
gtagagtctg ggtatgtctg tgaaggtgat cacaagacca tggttaaagc tatcaaagac 1500
agagtatcat taattaagag gaaacgagag cagcggcagt tggtacggga ggagcaagaa 1560
aaaaaaaagc aggaagagag cagctcctca cagcaggtag aacaatccag tgcttcccag 1620
acaggaatca agcagctccc ttctgctagc accggcctac ctactgtctt taccatttca 1680
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcagggg 1800
tcctctgtct tcacagaatc tcgagtgagc agccaacaga cagtttcata tgggttccaa 1860
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
cagctctcag cccatgggtt atatccacc tcaagtgtgc agcaggggat acagcagaca 1980
gccccctctc aacagacagt gcagttatca ctttcacaga catcaacctc cagtgaggcc 2040
actactgcac agccagttag tcagcctcaa gctccacaag tcttgccctc agtatcagct 2100
ggaaaacagc ttccagtttc ccagccagta ccaactatcc aaggcgaacc tcagatccca 2160
gttgcgacac aacctcgggt tgttccagtc cactctggtg ctcatctcct tccagtggga 2220
cagccgctcc ctactccctt gctccctcag taccctgtct ctcatctcct catatcaact 2280
cctcatgtgt ctacgggtca gacaggtttc tcatcccttc ccatcacaat ggcagctggc 2340
attactcagc ctctgctcac gttggcttca tctgtacaaa cagctgcgat cccgggggta 2400
tcaactgtgg ttcttagtca gcttccaacc cttctgcagc ctgtgactca gctgccaagt 2460
caggttcacc cacagctcct acaaccagca gttcagttcc tgggaatacc agctaacctt 2520
ggacaagctg ctgaggttcc actttcctct ggagatgttc tgtaccaggg cttcccacct 2580
cgactgccac cacagtaccc aggagattca aatattgtct cctcttccaa cgtgggtctt 2640
gtttgcatcc attctacagt cctawccctt ataccttctg cataa 2685

```

<210> 54
 <211> 894
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(894)
 <223> Xaa = Any Amino Acid

<400> 54

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35				40					45				
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55				60					
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85						90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
	115						120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
		180						185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
	195						200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260						265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
	275						280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
		340						345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
		355					360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420					425					430		
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435					440					445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450					455					460				
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
			485						490					495	
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg

			500					505				510			
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
		530					535					540			
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser
545					550					555					560
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln
			565						570					575	
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp
			580					585					590		
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg
		595					600					605			
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala
		610				615					620				
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala
625					630					635					640
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly
				645					650					655	
Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser
			660					665					670		
Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln
		675					680					685			
Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Leu
		690				695					700				
Pro	Val	Ser	Gln	Pro	Val	Pro	Thr	Ile	Gln	Gly	Glu	Pro	Gln	Ile	Pro
705					710				715						720
Val	Ala	Thr	Gln	Pro	Ser	Val	Val	Pro	Val	His	Ser	Gly	Ala	His	Phe
				725					730					735	
Leu	Pro	Val	Gly	Gln	Pro	Leu	Pro	Thr	Pro	Leu	Leu	Pro	Gln	Tyr	Pro
			740					745				750			
Val	Ser	Gln	Ile	Pro	Ile	Ser	Thr	Pro	His	Val	Ser	Thr	Ala	Gln	Thr
		755					760					765			
Gly	Phe	Ser	Ser	Leu	Pro	Ile	Thr	Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro
		770				775					780				
Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala	Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val
785					790				795						800
Ser	Thr	Val	Val	Pro	Ser	Gln	Leu	Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr
				805					810					815	
Gln	Leu	Pro	Ser	Gln	Val	His	Pro	Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln
			820					825					830		
Ser	Met	Gly	Ile	Pro	Ala	Asn	Leu	Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu
		835					840					845			
Ser	Ser	Gly	Asp	Val	Leu	Tyr	Gln	Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro
		850				855					860				
Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser
865					870					875					880
Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa	Pro	Ile	Pro	Ser	Ala		
				885					890						

<210> 55
 <211> 6426
 <212> DNA
 <213> Homo sapiens

<400> 55	
atggacaagg acagccgtgg ggcggccgcg accactacca ccactgagca ccgcttcttc	60
cgccggagcg tcatctgcga ctccaatgcc actgcactgg agcttcccgg ccttcctctt	120
tccctgcccc agcccagcat ccccgcgget gtcgccgaga gtgctccacc ggagccccac	180
cggaagaga ccgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct	240
gccgcccctg gggaacaggc cgtcgcgggc cctgccccct cgactgtccc cagcagtacc	300
agcaaagacc gcccagtgtc ccagcctagc cttgtgggga gcaaagagga gccgcgcgcg	360
gcgagaagtg gcagcggcgg cggcagcgcc aaggagccac aggaggaacg gagccagcag	420

caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggg	tcctttaaga	cggctctacaa	aggtctggac	540
actgaaacca	ccgtggaagt	cgcctggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagattttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttgggtg	720
actgaactta	tgacgtcttg	aacacttaaa	acgtatctga	aaaggtttaa	agtgatgaag	780
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	840
cgaaaaaaca	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgttttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgccaaaa	tgtctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1140
cgagccagtt	ttgacaaaag	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1260
gaggaaacag	gagtagcgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaagggtgat	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcggga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtcctcaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatal	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcaggga	1800
tcctctgtct	tcacagaatc	tcgagtgcag	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtcctcag	cccatggggt	atatccaccc	tcaagtgtgc	agcagggaat	acagcagaca	1980
gccccctctc	aacagacagt	gcagtatcca	ctttcacaga	catcaacctc	cagtggggcc	2040
actactgcac	agccagtgcg	tcagcctcaa	gctccacaag	tcttgctcca	agtatcagct	2100
ggaaaacagg	gcttcccacc	tcgactgcca	ccacagtacc	caggagattc	aaatattgct	2160
ccctcttcca	acgtggcttc	tggttgcatc	cattctacag	tcctawcccc	tcccatgccc	2220
acagaagtac	tggctacacc	tgggtacttt	cccacagtgg	tgcagcctta	tgtggaatca	2280
aatcttttag	ttcctattgg	tggtgtagga	ggacaggttc	aagtgtccca	gccaggaggg	2340
agtttagcac	aagccccac	tacatccctc	cagcaagcag	ttttggagag	tactcaggga	2400
gtctctcagg	ttgctcctgc	agagccagtt	gcagtagcac	agccccaagc	taccagcccg	2460
accacttttg	cttctctgt	agacagtgc	cattcagatg	ttgcttcagg	tatgagtgat	2520
ggcaatgaga	acgtcccac	ttccagtgg	aggcatgaag	gaagaactac	aaaacggcat	2580
taccgaaaat	ctgtaaggag	tcgctctcga	catgaaaaaa	cttcacgccc	aaaattaaga	2640
attttgaatg	tttcaaataa	aggagaccga	gtagtagaat	gtcaattaga	gactcataat	2700
agggaaaatgg	ttacattcaa	atttgacctc	gatggtgaca	accccaggga	gatagcaaca	2760
attatggtga	acaatgactt	tattctagca	atagagagag	agtcgtttgt	ggatcaagtg	2820
cgagaaatta	ttgaaaaagc	tgatgaaatg	ctcagtgcag	atgtcagttg	ggaaccagag	2880
ggtgatcagg	gattgagag	tctacaagga	aaggatgact	atggcttttc	aggttctcag	2940
aaattggaag	gagagttaa	acaaccaatt	cctgcgtctt	ccatgccaca	gcaaataggc	3000
attcctacca	gttctttaac	tcaagttggt	cattctgcgg	gaaggcgggt	tatagtgcag	3060
cctgtgccag	aaagccattt	acgagaatca	aaagtttttc	ccagtgaat	aacagatata	3120
gttgctgcct	ctacagctca	gagccctgga	atgaacttgt	ctcactctgc	atcatccctt	3180
agtctacaac	aggccttttc	tgaacttaga	cgtgcccaaa	tgacagaagg	acccaayaca	3240
gcacctccaa	actttagtca	tacaggacca	acatttccag	tagtacctcc	tttcttaagt	3300
agcattgctg	gagtcccaac	cacagcagca	gccacagcac	cagtccctgc	aacaagcagc	3360
cctcctaatt	acatttccac	atcagtaatt	cagtcctgagg	ttacagtgc	caactgaagag	3420
gggattgctg	gagttgccac	cagcacaggt	gtggttaact	caggtgggtct	ccccatacca	3480
cctgtgtctg	aatcaccagt	actttccagc	gtagtttcaa	gtatcacaat	acctgcagtt	3540
gtctcaatat	ctactacatc	cccgctcact	caagtcacca	catccacatc	tgagatcggt	3600
gtttctagta	cagcactgta	tccttcagta	acagtttcag	caacttcagc	ctctgcaggg	3660
ggcagtactg	ctaccccagg	tcctaagcct	ccagctgtag	tatctcagca	ggcagcaggc	3720
agcactactg	tgggagccac	attaacatca	gtttctacca	ccacttcatt	cccaagcaca	3780
gcttcacagc	gttcattcca	gcttagcagc	agtacttcta	ctcctacttt	agctgaaacc	3840
gtggtagtta	gcgcacactc	actagataag	acatctcata	gcagtacaac	tggattgggt	3900
ttctccctct	ctgcaccatc	ttcctcttcc	tctcctggag	caggagtgtc	tagttatatt	3960
tctcagcctg	gtgggtgcga	tcctttgggt	atcccatcag	tgatagcttc	tactcctatt	4020
cttccccaa	cagcaggacc	tacttctaca	cctttattac	cccaagtacc	tagtatccca	4080
cccttggtac	agcctgttgc	caatgtgcct	gctgtacagc	agacactaat	tcatagtgcg	4140
cctcaaccag	ctttgcttcc	caaccagccc	catactcatt	gtcctgaagt	agattctgat	4200


```

acacaaccca aagctcctgg aattgatgac ataaagactc tagaagaaaa gctgcggtct 4260
ctgttcagtg aacacagctc atctggagct cagcatgcct ctgtctcact ggagacctca 4320
ctagtcatag agagcactgt cacaccaggc atcccaacta ctgctgttgc accaagcaaa 4380
ctcctgactt ctaccacaag tacttgctta ccaccaacca atttaccact aggaacagtt 4440
gcttttgccag ttacaccagt ggtcacacct gggcaagttt ctaccccgag cagcactact 4500
acatcaggag tgaacacctg aactgctccc tccaagccac ctctaactaa ggctccgggtg 4560
ctgcagctgg gtactgaact tccagcaggt actctacca gcgagcagct gccacctttt 4620
ccaggacctt ctctaacca gtcccagcaa cctctagagg atcttgatgc tcaattgaga 4680
agaacactta gtccagagat katcacagtg acttctgcgg ttggtcctgt gtccatggcg 4740
gctccaacag caatcacaga agcaggaaca cagcctcaga agggtgtttc tcaagtcaaa 4800
gaaggccctg tcctagcaac tagttcagga gctggtgttt ttaagatggg acgatttcag 4860
gtttctgttg cagcagacgg tgcccagaaa gagggtaaaa ataagtcaga agatgcaaag 4920
tctgttcatt ttgaatccag cacctcagag tcctcagtc tatcaagtag tagtccagag 4980
agtaccttgg tgaaccaga gccgaatggc ataaccatcc ctggtatctc ttcagatgtg 5040
ccagagagtg cccacaaaac tactgcctca gaggcaaatg cagacactgg gcagcctacc 5100
aagggttggac gttttcaggt gacaactaca gcaacaaaag tgggtcgttt ctctgtatca 5160
aaaactgagg acaagatcac tgacacaaaag aaagaaggac cagtggcatc tctcctttt 5220
atggatttgg aacaagctgt tcttcctgct gtgataccaa agaaagagaa gcctgaactg 5280
tcagagcctt cacatctaaa tgggcccgtc tctgaccgg aggccgcttt ttaagttagg 5340
gatgtggatg atggttccgg tagtccacac tcgcccacac agctgagctc aaagagcctt 5400
cctagccaga atctaagtca aagccttagt aattcattta actcctctta catgagtagc 5460
gacaatgagt cagatatcga agatgaagac ttaaagttag agctgcgacg actacgagat 5520
aaacatctca aagagattca ggacctgcag agtcgccaga agcatgaaat tgaatctttg 5580
tataccaaac tgggcaaggt gccccctgct gttattattc ccccgagctgc tcccccttca 5640
gggagaagac gacgacccac taaaagcaaa ggcagcaaat ctagtccaag cagtcccttg 5700
gggaataaaa gcccccagct ttcaggtaac ctgtctggtc agagtgcagc ttcagtcttg 5760
cacccccagc agaccctcca cctcctggc aacatcccag agtccgggca gaatcagctg 5820
ttacagcccc ttaagccatc tccctccagt gacaacctct attcagcctt caccagtgat 5880
ggtgccattt cagtaccaag cctttctgct ccaggtcaag gaaccagcag cacaaacact 5940
gttggggcaa cagtgaacag ccaagccgcc caagctcagc ctctgccat gacgtccagc 6000
aggaagggca cattcacaga tgacttgca aagttggtag acaattgggc ccgagatgcc 6060
atgaatctct caggcaggag aggaagcaaa gggcacatga attatgaggg ccttggaatg 6120
gcaaggaagt tctctgcacc tgggcaactg tgcattcca tgacctcgaa cctgggtggc 6180
tctgccccca tctctgcagc atcagctacc tctctaggtc acttcaccaa gtctatgtgc 6240
ccccacagc agtatggctt tccagctacc ccatttggcg ctcaatggag tgggacgggt 6300
ggcccagcac cacagccact tggccagttc caacctgtgg gaactgcctc cttgcagaat 6360
ttcaacatca gcaatttgca gaaatccatc agcaacccc caggctccaa cctgcggaac 6420
acttag

```

<210> 56
 <211> 2141
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2141)
 <223> Xaa = Any Amino Acid

<400> 56
 Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu
 1 5 10 15
 His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala
 20 25 30
 Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro
 35 40 45
 Ala Ala Val Pro Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr
 50 55 60
 Val Thr Ala Thr Ala Thr Ser Gln Val Ala Gln Pro Pro Ala Ala
 65 70 75 80
 Ala Ala Pro Gly Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val

				85					90					95			
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val		
			100					105						110			
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly		
		115						120						125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile		
	130					135						140					
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe		
145					150					155					160		
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr		
			165						170						175		
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu		
			180					185						190			
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu		
	195						200					205					
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr		
	210					215						220					
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val		
225					230					235					240		
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe		
			245						250						255		
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu		
		260						265						270			
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg		
	275						280					285					
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val		
	290				295						300						
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala		
305					310					315					320		
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu		
			325						330						335		
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met		
		340						345						350			
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala		
		355					360						365				
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe		
	370					375					380						
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile		
385					390					395					400		
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His		
			405						410						415		
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu		
			420					425						430			
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp		
	435						440					445					
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe		
	450				455						460						
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met		
465					470					475					480		
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys		
			485						490						495		
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg		
			500					505						510			
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser		
	515						520						525				
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys		
	530					535					540						
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser		
545					550					555					560		
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln		
			565						570					575			
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp		
			580					585						590			

1090	1095	1100
Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser Ser		
1105	1110	1115
Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr Val		1120
	1125	1130
Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val Val		1135
	1140	1145
Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val Leu		1150
	1155	1160
Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile Ser		1165
	1170	1175
Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile Val		1180
1185	1190	1195
Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr Ser		1200
	1205	1210
Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro Ala		1215
	1220	1225
Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr Leu		1230
	1235	1240
Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln Leu		1245
	1250	1255
Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu Thr		1260
1265	1270	1275
Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser Thr		1280
	1285	1290
Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Pro		1295
	1300	1305
Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His Pro		1310
	1315	1320
Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln Ala		1325
	1330	1335
Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile Pro		1340
1345	1350	1355
Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu		1360
	1365	1370
Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr		1375
	1380	1385
His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly Ile		1390
	1395	1400
Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu		1405
	1410	1415
His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr Ser		1420
1425	1430	1435
Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val		1440
	1445	1450
Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro		1455
	1460	1465
Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val Val		1470
	1475	1480
Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Thr Ser Gly Val		1485
	1490	1495
Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro Val		1500
1505	1510	1515
Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu Gln		1520
	1525	1530
Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro Leu		1535
	1540	1545
Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile		1550
	1555	1560
Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala		1565
	1570	1575
Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys		1580
1585	1590	1595
		1600

Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met
 1605 1610 1615
 Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly
 1620 1625 1630
 Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr
 1635 1640 1645
 Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu Val
 1650 1655 1660
 Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val
 1665 1670 1675 1680
 Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr
 1685 1690 1695
 Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn
 1700 1705 1710
 Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp
 1715 1720 1725
 Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu
 1730 1735 1740
 Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu
 1745 1750 1755 1760
 Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Ala
 1765 1770 1775
 Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro
 1780 1785 1790
 His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser
 1795 1800 1805
 Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser
 1810 1815 1820
 Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp
 1825 1830 1835 1840
 Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu
 1845 1850 1855
 Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile
 1860 1865 1870
 Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys
 1875 1880 1885
 Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser
 1890 1895 1900
 Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu
 1905 1910 1915 1920
 His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly
 1925 1930 1935
 Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn
 1940 1945 1950
 Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu
 1955 1960 1965
 Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr
 1970 1975 1980
 Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser
 1985 1990 1995 2000
 Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn Trp
 2005 2010 2015
 Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly His
 2020 2025 2030
 Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro Gly
 2035 2040 2045
 Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro Ile
 2050 2055 2060
 Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met Cys
 2065 2070 2075 2080
 Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln Trp
 2085 2090 2095
 Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln Pro

	2100		2105		2110
Val Gly Thr	Ala Ser Leu Gln Asn Phe Asn Ile	Ser Asn Leu Gln Lys			
	2115		2120		2125
Ser Ile Ser	Asn Pro Pro Gly Ser Asn Leu Arg	Thr Thr			
	2130		2135		2140

<210> 57
 <211> 6015
 <212> DNA
 <213> Homo sapiens

<400> 57

atggacaagg	acagccgtgg	ggcgggccg	accactacca	ccactgagca	ccgcttcttc	60
cgccggagcg	tcattctgcga	ctccaatgcc	actgcactgg	agcttcccg	ccttctctt	120
tccttgcctc	agccagcat	ccccgggct	gtcccgaga	gtgctccacc	ggagccccac	180
cggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gccgcccctg	gggaacaggc	cgtoeggggc	cctgccccct	cgactgtccc	cagcagtacc	300
agcaaagacc	gcccagtgtc	ccagcctagc	cttggtggga	gcaaagagga	gccgcccgcg	360
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggctctaaa	aggctctggac	540
actgaaacca	ccgtggaagt	cgccgtggtg	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgacgtcttg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag	780
atcaaagttc	taagaagctc	gtgccgtcag	atccttaaa	gtcttcagtt	tcttcatact	840
cgaaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gcccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgcacaaa	tgtgcacag	atctaccgtc	gcgtgaccag	tgggtggaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaacctatg	cttcttccaa	1260
gaggaaacag	gagtagcggg	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatggttc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaagggtat	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagt	tggtagcgga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagttctcaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgctagc	accggcatac	ctactgcttc	taccacttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740
cagtaccagc	aacccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1800
tcctctgtct	tcacagaatc	tcgagtgage	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagttctcag	ccattggggt	atatccaccc	tcaagttgtc	agcagggaat	acagcagaca	1980
gcccctcctc	aacagacagt	gcagtatcca	ctttcacaga	catcaacctc	cagttagggc	2040
actactgcac	agccagttag	tcagcctcaa	gtcccaaca	tcttgctcca	agtatcagct	2100
ggaaaacagg	gcttcccacc	tcgactgcca	ccacagtacc	caggagattc	aaatattgct	2160
ccctcttcca	acgtggcttc	tgtttgcate	cattctacag	tcctawcccc	tcccatgccg	2220
acagaagtac	tggctacacc	tgggtacttt	cccacagtgg	tgcagcctta	tgtggaatca	2280
aatcttttag	ttcctatggg	tgggttagga	ggacaggttc	aagtgtccca	gccaggaggg	2340
agtttagcac	aagcccccc	tacatcctcc	cagcaagcag	ttttggagag	tactcagggg	2400
gtctctcagg	ttgtcctcgc	agagccagtt	gcagtagcac	agccccagc	taccagcccg	2460
accactttgg	cttccctcgt	agacagtgca	cattcagatg	ttgcttcagg	tatgagtgat	2520
ggcaatgaga	acgtcccatc	ttccagtggg	aggcatgaag	gaagaactac	aaaacggcat	2580
taccgaaaaa	ctgtaaggag	tcgctctcga	catgaaaaaa	cttcacgccc	aaaattaaga	2640
atttgaaatg	tttcaaataa	aggagaccga	gtagtagaat	gtcaattaga	gactcataat	2700
aggaaaatgg	ttacattcaa	atttgacct	gatggtgaca	accccaggga	gatagcaaca	2760
attatgggtg	acaatgactt	tattctagca	atagagagag	agtcgtttgt	ggatcaagtg	2820
cgagaaatta	ttgaaaaagc	tgatgaaatg	ctcagtgagg	atgtcagttg	ggaaccagag	2880
ggtgatcagg	gattggagag	tctacaagga	aaggatgact	atggcttttc	aggttctcag	2940
aaattggaag	gagagttcaa	acaaccaatt	cctgcgtctt	ccatgccaca	gcaaataggc	3000
attcctacca	gttctttaac	tcaagttggt	cattctgcgg	gaaggcgggt	tatagtgagt	3060

cctgtgccag	aaagccgatt	acgagaaatca	aaagttttcc	ccagtgaat	aacagatata	3120
gttgctgcct	ctacagctca	gagccctgga	atgaacttgt	ctcactctgc	atcatccctt	3180
agtctacaac	aggccttttc	tgaacttaga	cgtgcccaaa	tgacagaagg	acccaayaca	3240
gcacctccaa	acttttagtca	tacaggacca	acattttccag	tagtaacctcc	tttcttaagt	3300
agcattgctg	gagtcccaac	cacagcagca	gccacagcac	cagtccctgc	aacaagcagc	3360
cctcctaattg	acattttccac	atcagtaatt	cagtctgagg	ttacagtggc	cactgaagag	3420
gggattgctg	gagttgccac	cagcacaggt	gtggttaactt	caggtgggtct	ccccatacca	3480
cctgtgtctg	aatcaccagt	actttccagc	gtagtttcaa	gtatcacaat	acctgcagtt	3540
gtctcaatat	ctactacatc	cccgtcactt	caagtcccca	catccacatc	tgagatcggt	3600
gtttctagta	cagcactgta	tccttcagta	acagtttcag	caacttcagc	ctctgcaggg	3660
ggcagtagctg	ctaccccagg	tcctaagcct	ccagctgtag	tatctcagca	ggcagcaggc	3720
agcactactg	tggggagccac	attaacatca	gtttctacca	ccacttcatt	cccaagcaca	3780
gcttcacagc	tgctccattca	gcttagcagc	agtactttcta	ctcctacttt	agctgaaacc	3840
gtggtagtta	gcgcacactc	actagataag	acatctcata	gcagtacaac	tggattggct	3900
ttctccctct	ctgcaccatc	ttcctcttcc	tctcctggag	caggagtgtc	tagttatatt	3960
tctcagcctg	gtgggctgca	tcctttgggtc	attccatcag	tgatagcttc	tactcctatt	4020
cttccccaag	cagcaggacc	tacttctaca	cctttattac	cccaagtacc	tagtatccca	4080
cccttggtac	agcctgttgc	caatgtgcct	gctgtacagc	agacactaat	tcatagtcag	4140
cctcaaccag	ctttgcttcc	caaccagccc	catactcatt	gtcctgaagt	agattctgat	4200
acacaaccca	aagctcctgg	aattgatgac	ataaagactc	tagaagaaaa	gctgcggtct	4260
ctgttcagtg	aacacagctc	atctggagct	cagcatgcct	ctgtctcact	ggagacctca	4320
ctagtcatag	agagcactgt	cacaccaggc	atcccaacta	ctgctgttgc	accaagcaaa	4380
ctcctgactt	ctaccacaag	tacttgctta	ccaccaacca	atctaccact	aggaacagtt	4440
gctttgccag	ttacaccagt	ggtcacacct	gggcaagttt	ctaccccagt	cagcactact	4500
acatcaggag	tgaacacctg	aactgtctcc	tccaagccac	ctctaactaa	ggctccggtg	4560
ctgccagtg	gtactgaact	tccagcaggt	actctaccca	gcgagcagct	gccacctttt	4620
ccaggacctt	ctctaaccga	gtcccagcaa	cctctagagg	atcttgatgc	tcaattgaga	4680
agaacactta	gtccagagat	katcacagtg	acttctgcgg	ttggctcctgt	gtccatggcg	4740
gctccaacag	caatcacaga	agcaggaaca	cagcctcaga	aggggtgtttc	tcaagtcaaa	4800
gaaggccctg	tcctagcaac	tagttcagga	gctgggtgtt	ttaagatggg	acgatttcag	4860
gtttctgttg	cagcagacgg	tgcccagaaa	gagggtaaaa	ataagtccga	agatgcaaa	4920
tctgttcatt	ttgaatccag	cacctcagag	tcctcagtg	tatcaagtag	tagtccagag	4980
agtaccttgg	tgaaccacga	gccgaatggc	ataaccatcc	ctggatatctc	ttcagatgtg	5040
ccagagagtg	cccacaaaac	tactgcctca	gaggcacaagt	cagacactgg	gcagcctacc	5100
aaggttggac	gttttcaggt	gacaactaca	gcacaacaa	tggttcggtt	ctctgtatca	5160
aaaactgagg	acaagatcac	tgacacaaa	aaagaaggac	cagtggcatc	tcctcctttt	5220
atggatttgg	aacaagctgt	tcctcctgct	gtgataccaa	agaaagagaa	gcctgaactg	5280
tcagagcctt	cacatctaaa	tgggcccgtct	tctgaccggg	aggccgcttt	tttaagtagg	5340
gatgtggatg	atggttccgg	tagtccacac	tcgcccacac	agctgagctc	aaagagcctt	5400
cctagccaga	atctaagtca	aagccttagt	aattcattta	actcctctta	catgagtagc	5460
gacaatgagt	cagatatcga	agatgaagac	ttaaagttag	agctgcgacg	actacgagat	5520
aaacatctca	aagagattca	ggacctgcag	agtcgccaga	agcatgaaat	tgaatctttg	5580
tataccaaac	tgggcaaggt	gccccctgct	gttattattc	ccccagctgc	tcctcctttc	5640
gggagaagac	gacgacccac	taaaagcaaa	ggcagcaaat	ctagtccaag	cagttccttg	5700
gggaataaaa	gccccagct	ttcaggtaac	ctgtctgggtc	agagtgcagc	ttcagttctg	5760
cacccccagc	agaccttcca	ccctcctggc	aacatcccag	agtccgggca	gaatcagctg	5820
ttacagcccc	ttaaagccatc	tccttcaggt	gacaacctct	attcagcctt	caccagtgat	5880
ggtgccattt	cagtaccaag	cctttctgct	ccaggtcaag	gaataaagca	accatcatcg	5940
tccaaaaaca	ataaaatgga	gatgttgcca	tacctgggac	aaaagcctgt	taaggcgggt	6000
tgggagacta	gctga					6015

<210> 58
 <211> 2004
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> VARIANT
 <222> (1)...(2004)
 <223> Xaa = Any Amino Acid

<400> 58
Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu
1 5 10 15
His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala
20 25 30
Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro
35 40 45
Ala Ala Val Pro Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr
50 55 60
Val Thr Ala Thr Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala
65 70 75 80
Ala Ala Pro Gly Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val
85 90 95
Pro Ser Ser Thr Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val
100 105 110
Gly Ser Lys Glu Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly
115 120 125
Ser Ala Lys Glu Pro Gln Glu Arg Ser Gln Gln Asp Asp Ile
130 135 140
Glu Glu Leu Glu Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe
145 150 155 160
Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr
165 170 175
Lys Gly Leu Asp Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu
180 185 190
Gln Asp Arg Lys Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu
195 200 205
Ala Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr
210 215 220
Asp Ser Trp Glu Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val
225 230 235 240
Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe
245 250 255
Lys Val Met Lys Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu
260 265 270
Lys Gly Leu Gln Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg
275 280 285
Asp Leu Lys Cys Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val
290 295 300
Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala
305 310 315 320
Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu
325 330 335
Glu Lys Tyr Asp Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met
340 345 350
Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala
355 360 365
Ala Gln Ile Tyr Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe
370 375 380
Asp Lys Val Ala Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile
385 390 395 400
Arg Gln Asn Lys Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His
405 410 415
Ala Phe Phe Gln Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu
420 425 430
Asp Asp Gly Glu Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp
435 440 445
Ile Lys Lys Leu Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe
450 455 460
Ser Phe Asp Leu Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met
465 470 475 480
Val Glu Ser Gly Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys
485 490 495

Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg		
			500					505					510				
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser		
			515				520					525					
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys		
			530			535					540						
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser		
545					550				555						560		
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln		
				565				570						575			
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp		
			580					585					590				
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg		
			595			600						605					
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala		
			610			615					620						
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala		
625					630					635					640		
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly		
				645						650				655			
Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser		
			660					665					670				
Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln		
			675				680					685					
Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Gly		
					695						700						
Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	Ala		
705				710						715					720		
Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	Xaa		
				725					730					735			
Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	Thr		
				740				745					750				
Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	Gly		
				755			760					765					
Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	Gln		
				770		775					780						
Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	Gly		
785					790					795					800		
Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	Gln		
				805					810					815			
Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	Ser		
				820				825					830				
Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	Ser		
				835			840					845					
Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	Ser		
					855						860						
Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	Lys	Leu	Arg		
865					870					875					880		
Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu		
				885					890					895			
Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	Leu	Asp	Gly		
				900				905					910				
Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn	Asp	Phe	Ile		
				915			920					925					
Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg	Glu	Ile	Ile		
					935						940						
Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val	Glu	Pro	Glu		
945					950					955					960		
Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp	Tyr	Gly	Phe		
				965					970					975			
Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro	Ile	Pro	Ala		
				980				985					990				
Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser	Leu	Thr	Gln		

	995		1000		1005
Val	Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro Glu				
	1010		1015		1020
Ser	Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp Thr				
	1025		1030		1035
Val	Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His Ser				1040
		1045		1050	
Ala	Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg Ala				1055
		1060		1065	
Gln	Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His Thr				1070
		1075		1080	
Gly	Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala Gly				1085
		1090		1095	
Val	Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser Ser				1100
		1105		1110	
Pro	Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr Val				1115
		1125		1130	
Pro	Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val Val				1135
		1140		1145	
Thr	Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val Leu				1150
		1155		1160	
Ser	Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile Ser				1165
		1170		1175	
Thr	Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile Val				1180
		1185		1190	
Val	Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr Ser				1195
		1205		1210	
Ala	Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro Ala				1215
		1220		1225	
Val	Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr Leu				1230
		1235		1240	
Thr	Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln Leu				1245
		1250		1255	
Ser	Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu Thr				1260
		1265		1270	
Val	Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser Thr				1275
		1285		1290	
Thr	Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Pro				1295
		1300		1305	
Gly	Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His Pro				1310
		1315		1320	
Leu	Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln Ala				1325
		1330		1335	
Ala	Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile Pro				1340
		1345		1350	
Pro	Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu				1355
		1365		1370	
Ile	His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr				1375
		1380		1385	
His	Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly Ile				1390
		1395		1400	
Asp	Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu				1405
		1410		1415	
His	Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr Ser				1420
		1425		1430	
Leu	Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val				1435
		1445		1450	
Ala	Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro				1455
		1460		1465	
Thr	Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val Val				1470
		1475		1480	
Thr	Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Ser Gly Val				1485
		1490		1495	
				1500	

Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro Val
 1505 1510 1515 1520
 Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu Gln
 1525 1530 1535
 Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro Leu
 1540 1545 1550
 Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Xaa Ile
 1555 1560 1565
 Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr Ala
 1570 1575 1580
 Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val Lys
 1585 1590 1595 1600
 Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys Met
 1605 1610 1615
 Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu Gly
 1620 1625 1630
 Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser Thr
 1635 1640 1645
 Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu Val
 1650 1655 1660
 Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp Val
 1665 1670 1675 1680
 Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp Thr
 1685 1690 1695
 Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala Asn
 1700 1705 1710
 Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr Asp
 1715 1720 1725
 Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu Glu
 1730 1735 1740
 Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu Leu
 1745 1750 1755 1760
 Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala Ala
 1765 1770 1775
 Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser Pro
 1780 1785 1790
 His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln Ser
 1795 1800 1805
 Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu Ser
 1810 1815 1820
 Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg Asp
 1825 1830 1835 1840
 Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu
 1845 1850 1855
 Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile
 1860 1865 1870
 Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys
 1875 1880 1885
 Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser
 1890 1895 1900
 Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu
 1905 1910 1915 1920
 His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly
 1925 1930 1935
 Gln Asn Gln Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn
 1940 1945 1950
 Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu
 1955 1960 1965
 Ser Ala Pro Gly Gln Gly Ile Lys Gln Pro Ser Ser Ser Lys Asn Asn
 1970 1975 1980
 Lys Met Glu Met Leu Pro Tyr Leu Gly Gln Lys Pro Val Lys Ala Gly
 1985 1990 1995 2000
 Trp Glu Thr Ser

<210> 59
 <211> 2226
 <212> DNA
 <213> Homo sapiens

```

<400> 59
atggacaagg acagccgtgg ggcgggccgcg accactacca ccactgagca ccgcttcttc 60
cgccggagcg tcatctgcga ctccaatgcc actgcaactgg agcttcccgg ccttctcttt 120
tccttgcccc agccagcat ccccgcggt gtcccgcgaga gtgctccacc ggagccccac 180
cggaagaga cgtgaccgc caccgccact tcccaggtag cccagcagcc tccagccgct 240
ggcgcccttg gggaacaggg cgctcgcgggc cctgccccct cgactgtccc cagcagtacc 300
agcaaagacc gccagtgct ccagcctagc ctgtgtggga gcaaagagga gccgcccgg 360
gcgagaagtg gcagcgcgcg cggcagcgcc aaggagccac aggaggaacg gagccagcag 420
caggatgata tcgaagagct ggagaccaag gccgtgggaa tgtctaacga tggccgcttt 480
ctcaagtttg acatcgaaat cggcagaggc tcccttaaga cggctctaaa aggtctggac 540
actgaaacca cgtggaagt cgccgtggtg gaactgcagg atcgaaaatt aacaaagtct 600
gagaggcaga gatttaaaga agaagctgaa atgttaaaag gtcttcagca tcccaatatt 660
gttagatttt atgattcctg ggaatccaca gtaaaaggaa agaagtgcag tgttttggtg 720
actgaactta tgacgtctgg aacacttaaa acgtatctga aaagggttaa agtgatgaag 780
atcaaagttc taagaagctg gtgcccgcag atccttaaag gtcttcagtt tcttcatact 840
cgaactccac ctatcattca ccgcgatctt aaatgtgaca acatctttat caccggccct 900
actggctcag tcaagattgg agacctcggt ctggcaaccc tgaagcgggc ttcttttgcc 960
aagagtgtga taggtacccc agagttcatg gcccctgaga tgtatgagga gaaatatgat 1020
gaatccgttg acgtttatgc ttttgggatg tgcattgctg agatggctac atctgaatat 1080
ccttactcgg agtgccaaa gtctgcacag atctaccgtc gcgtgaccag tggggtgaag 1140
ccagccagtt ttgacaaagt agcaattcct gaagtgaagg aaattattga aggatgcata 1200
cgacaaaaca aagatgaaag atattccatc aaagaccttt tgaaccatgc cttcttccaa 1260
gaggaaacag gactacgggt agaattagca gaagaagatg atggagaaaa aatagccata 1320
aaattatggc tacgtattga agatattaag aaattaaagg gaaaatacaa agataatgaa 1380
gctattgagt tttcttttga tttagagaga gatgtcccag aagatgttgc acaagaaatg 1440
gtagagtctg ggtatgtctg tgaagggtat cacaagacca tggctaaagc tatcaaagac 1500
agagtatcat taattaaagag gaaacgagag cagcggcagt tggtagcgga ggagcaagaa 1560
aaaaaaaaagc aggaagagag cagtctcaaa cagcaggtag aacaatccag tgcttcccag 1620
acaggaatca agcagctccc ttctgctagc accggcatac ctactgcttc taccacttca 1680
gcttcagttt ctacacaagt agaacctgaa gaacctgagg cagatcaaca tcaacaacta 1740
cagtaccagc aaccagtat atctgtgtta tctgatggga cggttgacag tggtcaggga 1800
tcctctgtct tcacagaatc tcgagtgcgc agccaacaga cagtttcata tggttcccaa 1860
catgaacagg cacattctac aggcacagtc ccagggcata taccttctac tgtccaagca 1920
cagtctcagc cccatggggg atatatccacc tcaagtgtgc agcaggggat acagcagaca 1980
gcccctcttc aacagacagt gcagtattca ctttcacaga catcaacctc cagtggggcc 2040
actactgcac agccagtgcg tcagcctcaa gctccacaag tcttgctcca agtatcagct 2100
ggaaaacagg gcttcccacc tcgactgcca ccacagtacc caggagattc aaatattgct 2160
ccctcttcca acgtggcttc tgtttgcac cttctacag tctawcccc tataccttct 2220
gcataa 2226
  
```

<210> 60
 <211> 741
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(741)
 <223> Xaa = Any Amino Acid

```

<400> 60
Met Asp Lys Asp Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu
  1             5             10             15
His Arg Phe Phe Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala
      20             25             30
Leu Glu Leu Pro Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro
    35             40             45
  
```

Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
50						55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
				85					90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
	195						200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260						265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
	275						280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala
	355						360					365			
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe
	370					375					380				
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile
385					390					395					400
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His
			405						410					415	
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu
			420					425						430	
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp
		435						440				445			
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe
	450					455					460				
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met
465					470					475					480
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys
			485						490					495	
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg
		500						505					510		
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser
		515					520					525			
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys
	530					535					540				
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser

catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcage	cccatggggt	atatccaccc	tcaagtgtgc	agcaggggaat	acagcagaca	1980
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2040
actactgcac	agccagttag	tcagcctcaa	gctccacaag	tcttgccctca	agtatcagct	2100
ggaaaacaga	gtactcaggg	agtctctcag	gttgctcctg	cagagccagt	tgcagtagca	2160
cagccccaag	ctaccagccc	gaccactttg	gcttcctctg	tagacagtgc	acattcagat	2220
gttgcttcag	gtatgagtga	tggcaatgag	aacgtcccat	cttcagtggt	aaggcatgaa	2280
ggaagaacta	caaaacggca	ttaccgaaaa	tctgtaagga	gtcgtctctg	acatgaaaaa	2340
acttcacgcc	caaaattaag	aattttgaat	gtttcaaata	aaggagaccg	agtagtagaa	2400
tgtcaattag	agactcataa	taggaaaatg	gttacattca	aatttgacct	agatgggtgac	2460
aaccccgagg	agatagcaac	aattatgggt	aacaatgact	ttattctagc	aatagagaga	2520
gagtcgtttg	tggatcaagt	gcgagaaaat	attgaaaaag	ctgatgaaat	gctcagtgag	2580
gatgtcagtg	tgggaaccaga	gggtgatcag	ggattggaga	gtctacaagg	aaaggatgac	2640
tatggctttt	caggtttctca	gaaattggaa	ggagagtcca	aacaaccaat	tcctgogtct	2700
tccatgccac	agcaaatagg	catttcctacc	agttctttta	ctcaagttgt	tcattctgcg	2760
ggaaggcggt	ttatagttag	tcctgtgcc	gaaagccgat	tacgagaatc	aaaagttttc	2820
ccagtgaaa	taacagatac	agttgctgcc	tctacagctc	agagccctgg	aatgaacttg	2880
tctcactctg	catcatccct	tagtctacaa	caggcctttt	ctgaacttag	acgtgcccaa	2940
atgacagaag	gacccaayac	agcacctcca	aactttagtc	atacaggacc	aacattttcca	3000
gtagtacctc	ctttcttaag	tagcattgct	ggagctccaa	ccacagcagc	agccacagca	3060
ccagtcctctg	caacaagcag	ccctccta	gacatttcca	catcagtaat	tcagtctgag	3120
gttacagtgc	ccactgaaga	ggggattgct	ggagtgtcca	ccagcacagg	tgtggtaact	3180
tcaggtgggt	tccccatacc	acctgtgtct	gaatcaccag	tactttccag	cgtagtttca	3240
agtatcacia	tacctgcagt	tgtctcaata	tctactacat	ccccgtcact	tcaagtcccc	3300
acatccacat	ctgagatcgt	tgtttctagt	acagcactgt	atccttcagt	aacagtttca	3360
gcaacttcag	cctctgcagg	gggcagtagt	gctaccccag	gtcctaagcc	tcacagtgta	3420
gtatctcagc	aggcagcagg	cagcactact	gtggagccca	cattaacatc	agtttctacc	3480
accacttcat	tcccaagcac	agcttcacag	ctgtccattc	agcttagcag	cagtaacttct	3540
actcctactt	tagctgaaac	cgtggtagtt	agcgcacact	cactagataa	gacatctcat	3600
agcagtacaa	ctggattggc	tttctccctc	tctgcaccat	cttcctcttc	ctctcctgga	3660
gcaggagtgt	ctagttatat	ttctcagcct	ggtgggctgc	atccttttgt	cattccatca	3720
gtgatagctt	ctactctat	tcttcccaa	gcagcaggac	ctacttctac	acctttatta	3780
ccccagtac	ctagttatccc	acctttggt	cagctgtgtg	ccaatgtgcc	tgtgtacag	3840
cagacactaa	ttcatagtca	gcctcaacca	gctttgtctc	ccaaccagcc	ccatactcat	3900
tgtcctgaag	tagattctga	tacacaaccc	aaagctcctg	gaattgatga	cataaagact	3960
ctagaagaaa	agctgcggtc	tctgttcagt	gaacacagct	catctggagc	tcagcatgcc	4020
tctgtctcac	tggagacctc	actagtcata	gagagcactg	tcacaccagg	catcccaact	4080
actgctgttg	caccaagcaa	actcctgact	tctaccacaa	gtacttgctt	accaccaacc	4140
aattttaccac	tgttgacagt	tgttttgcca	gttacaccag	tggtcacacc	tgggcaagtt	4200
tctacccccag	tcagcactac	tacatcagga	gtgaaacctg	gaactgctcc	ctccaagcca	4260
cctctaacta	aggctccggt	gctgccagtg	ggtactgaac	ttccagcagg	tactctaccc	4320
agcgagcagc	tgccaccttt	tccaggacct	tctctaacc	agtcccagca	acctctagag	4380
gatcttgatg	ctcaatttag	aagaacactt	agtccagaga	tkatcacagt	gaacttctgcg	4440
gttggctcctg	tgtccatggc	ggctccaaca	gcaatcacag	aagcaggaac	acagcctcag	4500
aagggtgttt	ctcaagtc	agaaggccct	gtcctagcaa	ctagttcagg	agctgggtgt	4560
tttaagatgg	gacgatttca	ggtttctggt	gcagcagacg	gtgcccagaa	agagggtaaa	4620
aataagtcag	aagatgcaaa	gtctgttcat	tttgaatcca	gcacctcaga	gtcctcagtg	4680
ctatcaagta	gtagtccaga	gagtaccttg	gtgaaaccag	agccgaatgg	cataaccatc	4740
cctgggtatct	cttcagatgt	gccagagagt	gcccacaaaa	ctactgcctc	agaggcacaag	4800
tcagacactg	ggcagcctac	caaggttgga	cgttttcagg	tgacaactac	agcaaaacaa	4860
gtgggtcggt	tctctgtatc	aaaaactgag	gacaagatca	ctgacacaaa	gaaagaagga	4920
ccagtggtcat	ctcctccttt	tatggatttg	gaacaagctg	ttcttctctg	tgtgatacca	4980
aagaaagaga	agcctgaact	gtcagagcct	tcacatctaa	atggggcctg	ttctgacctg	5040
gaggccgctt	ttttaagtag	ggatgtggat	gatgggtccg	gtagtccaca	ctcgccccat	5100
cagctgagct	caaagagcct	tcctagccag	aatctaagtc	aaagccttag	taattcattt	5160
aactcctctt	acatgagtga	cgacaatgag	tcagatatgc	aagatgaaga	cttaaagtta	5220
gagctgcgac	gactacgaga	taaacatctc	aaagagattc	aggacctgca	gagtcgccag	5280
aagcatgaaa	ttgaatcttt	gtataccaaa	ctgggcaagg	tgccccctgc	tgttattatt	5340
ccccagctg	ctcccccttt	agggagaaga	cgacgaccca	ctaaaagcaa	agggcagcaa	5400
tctagtcgaa	gcagttcctt	ggggaataaa	agcccccagc	tttcaggtaa	cctgtctggt	5460
cagagtgcag	cttcagttct	gcacccccag	cagaccctcc	acctcctggg	caacatccca	5520
gagtcggggc	agaatcagct	gttacagccc	cttaagccat	ctcctctcag	tgacaacctc	5580
tattcagcct	tcaccagtga	tgggtccatt	tcagtaacca	gcctttctgc	tcagggtcaa	5640

ggaaccagca	gcacaaacac	tgttggggca	acagtgaaca	gccaagccgc	ccaagctcag	5700
cctcctgcc	tgacgtccag	caggaagggc	acattcacag	atgacttgca	caagttggta	5760
gacaattggg	cccagatgac	catgaatctc	tcaggcagga	gaggaagcaa	agggcacatg	5820
aattatgagg	gccctggaat	ggcaaggaag	ttctctgcac	ctgggcaact	gtgcatctcc	5880
atgacctcga	acctgggtgg	ctctgcccc	atctctgcag	catcagctac	ctctctaggt	5940
cacttcacca	agtctatgtg	ccccccacag	cagtatggct	ttccagctac	cccatttggc	6000
gctcaatgga	gtgggacggg	tggcccagca	ccacagccac	ttggccagtt	ccaacctgtg	6060
ggaactgcct	ccttgacaga	tttcaacatc	agcaatttgc	agaaatccat	cagcaacccc	6120
ccaggctcca	acctgcggac	cacttag				6147

<210> 62
 <211> 2048
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(2048)
 <223> Xaa = Any Amino Acid

<400> 62

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25					30		
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
			35				40					45			
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
			50			55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70					75					80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
				85					90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105					110		
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
		130				135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
		195					200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
		210				215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235				240	
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
			260				265					270			
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275				280						285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290				295						300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320

Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	325	330	335
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	340	345	350
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	355	360	365
Ala	Gln	Ile	Tyr	Arg	Arg	Val	Thr	Ser	Gly	Val	Lys	Pro	Ala	Ser	Phe	370	375	380
Asp	Lys	Val	Ala	Ile	Pro	Glu	Val	Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	385	390	395
Arg	Gln	Asn	Lys	Asp	Glu	Arg	Tyr	Ser	Ile	Lys	Asp	Leu	Leu	Asn	His	405	410	415
Ala	Phe	Phe	Gln	Glu	Glu	Thr	Gly	Val	Arg	Val	Glu	Leu	Ala	Glu	Glu	420	425	430
Asp	Asp	Gly	Glu	Lys	Ile	Ala	Ile	Lys	Leu	Trp	Leu	Arg	Ile	Glu	Asp	435	440	445
Ile	Lys	Lys	Leu	Lys	Gly	Lys	Tyr	Lys	Asp	Asn	Glu	Ala	Ile	Glu	Phe	450	455	460
Ser	Phe	Asp	Leu	Glu	Arg	Asp	Val	Pro	Glu	Asp	Val	Ala	Gln	Glu	Met	465	470	475
Val	Glu	Ser	Gly	Tyr	Val	Cys	Glu	Gly	Asp	His	Lys	Thr	Met	Ala	Lys	485	490	495
Ala	Ile	Lys	Asp	Arg	Val	Ser	Leu	Ile	Lys	Arg	Lys	Arg	Glu	Gln	Arg	500	505	510
Gln	Leu	Val	Arg	Glu	Glu	Gln	Glu	Lys	Lys	Lys	Gln	Glu	Glu	Ser	Ser	515	520	525
Leu	Lys	Gln	Gln	Val	Glu	Gln	Ser	Ser	Ala	Ser	Gln	Thr	Gly	Ile	Lys	530	535	540
Gln	Leu	Pro	Ser	Ala	Ser	Thr	Gly	Ile	Pro	Thr	Ala	Ser	Thr	Thr	Ser	545	550	555
Ala	Ser	Val	Ser	Thr	Gln	Val	Glu	Pro	Glu	Glu	Pro	Glu	Ala	Asp	Gln	565	570	575
His	Gln	Gln	Leu	Gln	Tyr	Gln	Gln	Pro	Ser	Ile	Ser	Val	Leu	Ser	Asp	580	585	590
Gly	Thr	Val	Asp	Ser	Gly	Gln	Gly	Ser	Ser	Val	Phe	Thr	Glu	Ser	Arg	595	600	605
Val	Ser	Ser	Gln	Gln	Thr	Val	Ser	Tyr	Gly	Ser	Gln	His	Glu	Gln	Ala	610	615	620
His	Ser	Thr	Gly	Thr	Val	Pro	Gly	His	Ile	Pro	Ser	Thr	Val	Gln	Ala	625	630	635
Gln	Ser	Gln	Pro	His	Gly	Val	Tyr	Pro	Pro	Ser	Ser	Val	Gln	Gln	Gly	645	650	655
Ile	Gln	Gln	Thr	Ala	Pro	Pro	Gln	Gln	Thr	Val	Gln	Tyr	Ser	Leu	Ser	660	665	670
Gln	Thr	Ser	Thr	Ser	Ser	Glu	Ala	Thr	Thr	Ala	Gln	Pro	Val	Ser	Gln	675	680	685
Pro	Gln	Ala	Pro	Gln	Val	Leu	Pro	Gln	Val	Ser	Ala	Gly	Lys	Gln	Ser	690	695	700
Thr	Gln	Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	705	710	715
Gln	Pro	Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	725	730	735
Ala	His	Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	740	745	750
Pro	Ser	Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	755	760	765
Arg	Lys	Ser	Val	Arg	Ser	Arg	Ser	Arg	His	Glu	Lys	Thr	Ser	Arg	Pro	770	775	780
Lys	Leu	Arg	Ile	Leu	Asn	Val	Ser	Asn	Lys	Gly	Asp	Arg	Val	Val	Glu	785	790	795
Cys	Gln	Leu	Glu	Thr	His	Asn	Arg	Lys	Met	Val	Thr	Phe	Lys	Phe	Asp	805	810	815
Leu	Asp	Gly	Asp	Asn	Pro	Glu	Glu	Ile	Ala	Thr	Ile	Met	Val	Asn	Asn			

820					825					830					
Asp	Phe	Ile	Leu	Ala	Ile	Glu	Arg	Glu	Ser	Phe	Val	Asp	Gln	Val	Arg
835					840					845					
Glu	Ile	Ile	Glu	Lys	Ala	Asp	Glu	Met	Leu	Ser	Glu	Asp	Val	Ser	Val
850					855					860					
Glu	Pro	Glu	Gly	Asp	Gln	Gly	Leu	Glu	Ser	Leu	Gln	Gly	Lys	Asp	Asp
865					870					875					
Tyr	Gly	Phe	Ser	Gly	Ser	Gln	Lys	Leu	Glu	Gly	Glu	Phe	Lys	Gln	Pro
885					890					895					
Ile	Pro	Ala	Ser	Ser	Met	Pro	Gln	Gln	Ile	Gly	Ile	Pro	Thr	Ser	Ser
900					905					910					
Leu	Thr	Gln	Val	Val	His	Ser	Ala	Gly	Arg	Arg	Phe	Ile	Val	Ser	Pro
915					920					925					
Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu	Ser	Lys	Val	Phe	Pro	Ser	Glu	Ile
930					935					940					
Thr	Asp	Thr	Val	Ala	Ala	Ser	Thr	Ala	Gln	Ser	Pro	Gly	Met	Asn	Leu
945					950					955					
Ser	His	Ser	Ala	Ser	Ser	Leu	Ser	Leu	Gln	Gln	Ala	Phe	Ser	Glu	Leu
965					970					975					
Arg	Arg	Ala	Gln	Met	Thr	Glu	Gly	Pro	Asn	Thr	Ala	Pro	Pro	Asn	Phe
980					985					990					
Ser	His	Thr	Gly	Pro	Thr	Phe	Pro	Val	Val	Pro	Pro	Phe	Leu	Ser	Ser
995					1000					1005					
Ile	Ala	Gly	Val	Pro	Thr	Thr	Ala	Ala	Ala	Thr	Ala	Pro	Val	Pro	Ala
1010					1015					1020					
Thr	Ser	Ser	Pro	Pro	Asn	Asp	Ile	Ser	Thr	Ser	Val	Ile	Gln	Ser	Glu
1025					1030					1035					
Val	Thr	Val	Pro	Thr	Glu	Glu	Gly	Ile	Ala	Gly	Val	Ala	Thr	Ser	Thr
1045					1050					1055					
Gly	Val	Val	Thr	Ser	Gly	Gly	Leu	Pro	Ile	Pro	Pro	Val	Ser	Glu	Ser
1060					1065					1070					
Pro	Val	Leu	Ser	Ser	Val	Val	Ser	Ser	Ile	Thr	Ile	Pro	Ala	Val	Val
1075					1080					1085					
Ser	Ile	Ser	Thr	Thr	Ser	Pro	Ser	Leu	Gln	Val	Pro	Thr	Ser	Thr	Ser
1090					1095					1100					
Glu	Ile	Val	Val	Ser	Ser	Thr	Ala	Leu	Tyr	Pro	Ser	Val	Thr	Val	Ser
1105					1110					1115					
Ala	Thr	Ser	Ala	Ser	Ala	Gly	Gly	Ser	Thr	Ala	Thr	Pro	Gly	Pro	Lys
1125					1130					1135					
Pro	Pro	Ala	Val	Val	Ser	Gln	Gln	Ala	Ala	Gly	Ser	Thr	Thr	Val	Gly
1140					1145					1150					
Ala	Thr	Leu	Thr	Ser	Val	Ser	Thr	Thr	Thr	Ser	Phe	Pro	Ser	Thr	Ala
1155					1160					1165					
Ser	Gln	Leu	Ser	Ile	Gln	Leu	Ser	Ser	Ser	Thr	Ser	Thr	Pro	Thr	Leu
1170					1175					1180					
Ala	Glu	Thr	Val	Val	Val	Ser	Ala	His	Ser	Leu	Asp	Lys	Thr	Ser	His
1185					1190					1195					
Ser	Ser	Thr	Thr	Gly	Leu	Ala	Phe	Ser	Leu	Ser	Ala	Pro	Ser	Ser	Ser
1205					1210					1215					
Ser	Ser	Pro	Gly	Ala	Gly	Val	Ser	Ser	Tyr	Ile	Ser	Gln	Pro	Gly	Gly
1220					1225					1230					
Leu	His	Pro	Leu	Val	Ile	Pro	Ser	Val	Ile	Ala	Ser	Thr	Pro	Ile	Leu
1235					1240					1245					
Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser	Thr	Pro	Leu	Leu	Pro	Gln	Val	Pro
1250					1255					1260					
Ser	Ile	Pro	Pro	Leu	Val	Gln	Pro	Val	Ala	Asn	Val	Pro	Ala	Val	Gln
1265					1270					1275					
Gln	Thr	Leu	Ile	His	Ser	Gln	Pro	Gln	Pro	Ala	Leu	Leu	Pro	Asn	Gln
1285					1290					1295					
Pro	His	Thr	His	Cys	Pro	Glu	Val	Asp	Ser	Asp	Thr	Gln	Pro	Lys	Ala
1300					1305					1310					
Pro	Gly	Ile	Asp	Asp	Ile	Lys	Thr	Leu	Glu	Glu	Lys	Leu	Arg	Ser	Leu
1315					1320					1325					

Phe Ser Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu
1330 1335 1340
Glu Thr Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr
1345 1350 1355 1360
Thr Ala Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys
1365 1370 1375
Leu Pro Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr
1380 1385 1390
Pro Val Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Thr
1395 1400 1405
Ser Gly Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys
1410 1415 1420
Ala Pro Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro
1425 1430 1435 1440
Ser Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln
1445 1450 1455
Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro
1460 1465 1470
Glu Xaa Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala
1475 1480 1485
Pro Thr Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser
1490 1495 1500
Gln Val Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val
1505 1510 1515 1520
Phe Lys Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln
1525 1530 1535
Lys Glu Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu
1540 1545 1550
Ser Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser
1555 1560 1565
Thr Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser
1570 1575 1580
Ser Asp Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys
1585 1590 1595 1600
Ser Asp Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr
1605 1610 1615
Thr Ala Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys
1620 1625 1630
Ile Thr Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met
1635 1640 1645
Asp Leu Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys
1650 1655 1660
Pro Glu Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro
1665 1670 1675 1680
Glu Ala Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro
1685 1690 1695
His Ser Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu
1700 1705 1710
Ser Gln Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp
1715 1720 1725
Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg
1730 1735 1740
Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln
1745 1750 1755 1760
Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro
1765 1770 1775
Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg
1780 1785 1790
Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly
1795 1800 1805
Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala
1810 1815 1820
Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro

1825		1830		1835		1840
Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser						
		1845		1850		1855
Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val						
		1860		1865		1870
Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val						
		1875		1880		1885
Gly Ala Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met						
		1890		1895		1900
Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val						
		1905		1910		1915
Asp Asn Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser						
		1925		1930		1935
Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser						
		1940		1945		1950
Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser						
		1955		1960		1965
Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys						
		1970		1975		1980
Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly						
		1985		1990		1995
Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln						
		2005		2010		2015
Phe Gln Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn						
		2020		2025		2030
Leu Gln Lys Ser Ile Ser Asn Pro Gly Ser Asn Leu Arg Thr Thr						
		2035		2040		2045

<210> 63
 <211> 5736
 <212> DNA
 <213> Homo sapiens

<400> 63

atggacaagg	acagccgtgg	ggcggccgcg	accactacca	ccactgagca	ccgcttcttc	60
cgcgggagcg	tcattctgca	ctccaatgcc	actgcactgg	agcttcccgg	ccttccctctt	120
tccctgcccc	agcccagcat	ccccgcggct	gtccccgaga	gtgctccacc	ggagccccac	180
cgggaagaga	ccgtgaccgc	caccgccact	tcccaggtag	cccagcagcc	tccagccgct	240
gcccgccttg	gggaacaggc	cgctgcgggc	cctgccccct	cgactgtccc	cagcagtacc	300
agcaaagacc	gcccagtgct	ccagcctagc	cttgtgggga	gcaaagagga	gcccgcggcg	360
gcgagaagtg	gcagcggcgg	cggcagcgcc	aaggagccac	aggaggaacg	gagccagcag	420
caggatgata	tcgaagagct	ggagaccaag	gccgtgggaa	tgtctaacga	tggccgcttt	480
ctcaagtttg	acatcgaaat	cggcagaggc	tcctttaaga	cggtctacaa	aggtctggac	540
actgaaacca	ccgtggaagt	cgcttggtgt	gaactgcagg	atcgaaaatt	aacaaagtct	600
gagaggcaga	gatttaaaga	agaagctgaa	atgttaaaag	gtcttcagca	tcccaatatt	660
gttagatttt	atgattcctg	ggaatccaca	gtaaaaggaa	agaagtgcac	tgttttggtg	720
actgaactta	tgacgtctgg	aacacttaaa	acgtatctga	aaaggtttta	agtgatgaag	780
atcaaagttc	taagaagctg	gtgccgtcag	atccttaaaag	gtcttcagtt	tcttcatact	840
cgaactccac	ctatcattca	ccgcgatctt	aaatgtgaca	acatctttat	caccggccct	900
actggctcag	tcaagattgg	agacctcggt	ctggcaaccc	tgaagcgggc	ttcttttgcc	960
aagagtgtga	taggtacccc	agagttcatg	gccccctgaga	tgtatgagga	gaaatatgat	1020
gaatccgttg	acgtttatgc	ttttgggatg	tgcattgctt	agatggctac	atctgaatat	1080
ccttactcgg	agtgccaaaa	tgctgcacag	atctaccgtc	gcgtgaccag	tgggggtgaag	1140
ccagccagtt	ttgacaaagt	agcaattcct	gaagtgaagg	aaattattga	aggatgcata	1200
cgacaaaaca	aagatgaaag	atattccatc	aaagaccttt	tgaaccatgc	cttcttccaa	1260
gaggaaacag	gagtacgggt	agaattagca	gaagaagatg	atggagaaaa	aatagccata	1320
aaattatggc	tacgtattga	agatattaag	aaattaaagg	gaaaatacaa	agataatgaa	1380
gctattgagt	tttcttttga	tttagagaga	gatgtcccag	aagatgttgc	acaagaaatg	1440
gtagagtctg	ggtatgtctg	tgaagtgatg	cacaagacca	tggctaaagc	tatcaaagac	1500
agagtatcat	taattaagag	gaaacgagag	cagcggcagc	tggtacggga	ggagcaagaa	1560
aaaaaaaaagc	aggaagagag	cagtctcaaa	cagcaggtag	aacaatccag	tgcttcccag	1620
acaggaatca	agcagctccc	ttctgtctag	accggcatac	ctactgcttc	taccatttca	1680
gcttcagttt	ctacacaagt	agaacctgaa	gaacctgagg	cagatcaaca	tcaacaacta	1740

cagtaccagc	aaccagtat	atctgtgtta	tctgatggga	cggttgacag	tggtcagggg	1800
tcctctgtct	tcacagaatc	tcgagtgcgc	agccaacaga	cagtttcata	tggttcccaa	1860
catgaacagg	cacattctac	aggcacagtc	ccagggcata	taccttctac	tgtccaagca	1920
cagtctcagc	cccatggggg	atatccaccc	tcaagtgtgc	agcaggggaat	acagcagaca	1980
gccccctctc	aacagacagt	gcagtattca	ctttcacaga	catcaacctc	cagtgaggcc	2040
actactgcac	agccagtgcg	tcagcctcaa	gctccacaag	tcttgccctca	agtatcagct	2100
ggaaaacaga	gtactcagg	agtctctcag	gttgctcctg	cagagccagt	tgcagttagc	2160
cagccccaag	ctaccagcc	gaccactttg	gcttcctctg	tagacagtgc	acattcagat	2220
gttgcttcag	gtatgagtga	tggcaatgag	aacgtcccat	cttcagtggt	aaggcatgaa	2280
ggaagaacta	caaaacggca	ttaccgaaaa	tctgtaagg	gtcgctctcg	acatgaaaaa	2340
acttcacgcc	caaaaattaag	aattttgaa	gtttcaaata	aaggagaccg	agtagtagaa	2400
tgtcaattag	agactcataa	taggaaaaatg	gttacattca	aatttgacct	agatgggtgac	2460
aaccccagag	agatagcaac	aattatggtg	aacaatgact	ttattctagc	aatagagaga	2520
gagtcgtttg	tggatcaagt	gcgagaaatt	attgaaaagg	ctgatgaaat	gctcagtgcg	2580
gatgtcagtg	tgggaaccaga	gggtgatcag	ggattggaga	gtctacaagg	aaaggatgac	2640
tatgggtttt	caggtttctca	gaaattggaa	ggagagttca	aacaaccaat	tcctgcgtct	2700
tccatgccac	agcaaatagg	cattcctacc	agttctttta	ctcaagttgt	tcattctgcg	2760
ggaaggcggg	ttatagtgcg	tcctgtgcc	gaaagccgat	tacgagaatc	aaaagttttc	2820
cccagtgaag	taacagataa	agttgtctgc	tctacagctc	agagccctgg	aatgaacttg	2880
tctcactctg	catcatccct	tagtctacaa	caggcctttt	ctgaacttag	acgtgccc	2940
atgacagaag	gacccaayac	agcacctcca	aacttttagtc	atacaggacc	aacattttcca	3000
gtagtacctc	ctttcttaag	tagcattgct	ggagtcccaa	ccacagcagc	agccacagca	3060
ccagtcctctg	caacaagcag	ccctccta	gacatttcca	catcagta	tcagtctgag	3120
gttacagtgc	ccactgaaga	ggggattgct	ggagttgcc	ccagcacagg	tgtggtaact	3180
tcaggtgggc	tccccatacc	acctgtgtct	gaatcaccag	tactttccag	cgtagtttca	3240
agtatcaca	tactctcag	tgctcaata	tctactacat	ccccgtcact	tcaagtcctc	3300
acatccacat	ctgagatcgt	tgtttctagt	acagcactgt	atccttcagt	aacagtttca	3360
gcaacttcag	cctctgcagg	gggcagtagt	gctacccag	gtcctaagcc	tcagctgtga	3420
gtatctcagc	aggcagcagg	cagcactact	gtgggagcca	cattaacatc	agtttctacc	3480
accacttcat	tcccagcac	agcttcacag	ctgtccatc	agcttagcag	cagtacttct	3540
actcctactt	tagctga	cgtggtagtt	agcgacact	cactagataa	gacatctcat	3600
agcagataca	ctgtattggc	ttctccctc	tctgcaccat	ctctctctc	gtctctctga	3660
gcaggagtgt	ctagtataat	ttctcagcct	ggtgggctgc	atcctttggt	cattccatca	3720
gtgatagctt	ctactcctat	tttccccc	gcagcaggac	ctacttctac	acctttatta	3780
ccccaggtac	ctagtatccc	acccttggt	cagcctgttg	ccaatgtgcc	tgtgtacag	3840
cagacactaa	ttcatagtca	gcctcaacca	gctttgcttc	ccaaccagcc	ccatactcat	3900
tgtcctgaag	tagattctga	tacacaaccc	aaagctcctg	gaattgatga	cataaagact	3960
ctagaagaaa	agctgcggtc	tctgttcagt	gaacacagct	catctggagc	tcagcatgcc	4020
tctgtctcac	tggagacctc	actagtata	gagagcactg	tcacaccagg	catcccaact	4080
actgctgttg	caccaagcaa	actcctgact	tctaccacaa	gtacttgcct	accaccaacc	4140
aatttaccac	taggaacagt	tgctttgcc	gttacaccag	tggtcacacc	tgggcaagtt	4200
tctacccag	tcagcactac	tacatcagga	gtgaaacctg	gaactgctcc	ctccaagcca	4260
cctctaacta	aggctccggg	gctgccagtg	ggtactgaac	ttccagcagg	tactctaccc	4320
agcgagcagc	tgccaccttt	tccaggacct	tctctaagcc	agtccagca	acctctagag	4380
gatcttgatg	ctcaattgag	aagaacactt	agtcacagga	tkatcacagt	gacttctgcg	4440
gttggtcctg	tgtccatggc	ggctccaaca	gcaatcacag	aagcaggaac	acagcctcag	4500
aagggtgttt	ctcaagtcaa	agaaggccct	gtcctagcaa	ctagtccagg	agctgggtgt	4560
tttaagatgg	gacgatttca	ggtttctggt	gcagcagacg	gtgcccagaa	agagggtaaa	4620
aataagtcag	aagatgcaaa	gtctgttcat	tttgaatcca	gcacctcaga	gtcctcagtg	4680
ctatcaagta	gtagtccaga	gagtaccttg	gtgaaaccag	agccgaatgg	cataaccatc	4740
cctggtatct	cttcagatgt	gccagagagt	gcccacaaaa	ctactgctc	agaggcaaa	4800
tcagacactg	ggcagcctac	caagggttga	cgttttcagg	tgacaactac	agcaaacaaa	4860
gtgggtcggt	tctctgtatc	aaaaactgag	gacaagatca	ctgacacaaa	gaaagaagga	4920
ccagtgccat	ctcctccttt	tatggatttg	gaacaagctg	ttcttctgct	tgtgatacca	4980
aagaaagaga	agcctgaact	gtcagagcct	tcacatctaa	atgggcccgc	ttctgacccg	5040
gaggcgcttt	tttaagtag	ggatgtggat	gatggttccg	gtagtccaca	ctcgccccat	5100
cagctgagct	caaagagcct	tcctagccag	aatctaaagtc	aaagccttag	taattcattt	5160
aactcctctt	acatgagtag	cgacaatgag	tcagatatcg	aagatgaaga	cttaaagtta	5220
gagctgcgac	gactacgaga	taaacaatctc	aaagagattc	aggacctgca	gagtcgcccag	5280
aagcatgaaa	ttgaatcttt	gtataccaaa	ctgggcaagg	tgccccctgc	tgttattatt	5340
ccccagctg	ctcccccttt	agggagaaga	cgacgaccca	ctaaaagcaa	agggcagcaa	5400
tctagtgcga	gcagttcctt	ggggaataaa	agccccagc	tttcaggtaa	cctgtctggt	5460
cagagtgcag	cttcagtcct	gcacccccag	cagaccctcc	accctcctgg	caacatccca	5520

gagtccgggc	agaatcagct	gttacagccc	cttaagccat	ctccctccag	tgacaacctc	5580
tattcagcct	tcaccagtga	tggtgccatt	tcagtaccaa	gcctttctgc	tccaggtcaa	5640
ggaataaagc	aaccatcatc	gtccaaaaac	aataaaatgg	agatgttgcc	atacctggga	5700
caaaagcctg	ttaaggcggg	ttgggagact	agctga			5736

<210> 64
 <211> 1911
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(1911)
 <223> Xaa = Any Amino Acid

<400> 64

Met	Asp	Lys	Asp	Ser	Arg	Gly	Ala	Ala	Ala	Thr	Thr	Thr	Thr	Thr	Glu
1				5					10					15	
His	Arg	Phe	Phe	Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala
			20					25				30			
Leu	Glu	Leu	Pro	Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro
		35					40				45				
Ala	Ala	Val	Pro	Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr
	50					55					60				
Val	Thr	Ala	Thr	Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala
65					70				75						80
Ala	Ala	Pro	Gly	Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val
			85						90					95	
Pro	Ser	Ser	Thr	Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val
			100					105						110	
Gly	Ser	Lys	Glu	Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly
		115					120					125			
Ser	Ala	Lys	Glu	Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile
	130					135					140				
Glu	Glu	Leu	Glu	Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe
145					150					155					160
Leu	Lys	Phe	Asp	Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr
			165						170					175	
Lys	Gly	Leu	Asp	Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu
			180					185					190		
Gln	Asp	Arg	Lys	Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu
	195						200					205			
Ala	Glu	Met	Leu	Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr
	210					215					220				
Asp	Ser	Trp	Glu	Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val
225					230					235					240
Thr	Glu	Leu	Met	Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe
			245						250					255	
Lys	Val	Met	Lys	Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu
		260						265					270		
Lys	Gly	Leu	Gln	Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg
		275					280					285			
Asp	Leu	Lys	Cys	Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val
	290					295					300				
Lys	Ile	Gly	Asp	Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala
305					310					315					320
Lys	Ser	Val	Ile	Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu
			325						330					335	
Glu	Lys	Tyr	Asp	Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met
			340					345					350		
Leu	Glu	Met	Ala	Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala

Glu 865	Pro	Glu	Gly	Asp	Gln 870	Gly	Leu	Glu	Ser	Leu 875	Gln	Gly	Lys	Asp	Asp 880
Tyr	Gly	Phe	Ser	Gly 885	Ser	Gln	Lys	Leu	Glu 890	Gly	Glu	Phe	Lys	Gln 895	Pro
Ile	Pro	Ala	Ser 900	Ser	Met	Pro	Gln	Gln 905	Ile	Gly	Ile	Pro	Thr 910	Ser	Ser
Leu	Thr	Gln 915	Val	Val	His	Ser	Ala 920	Gly	Arg	Arg	Phe	Ile 925	Val	Ser	Pro
Val	Pro	Glu	Ser	Arg	Leu	Arg	Glu 935	Ser	Lys	Val	Phe 940	Pro	Ser	Glu	Ile
Thr 945	Asp	Thr	Val	Ala	Ala 950	Ser	Thr	Ala	Gln	Ser 955	Pro	Gly	Met	Asn	Leu 960
Ser	His	Ser	Ala	Ser 965	Ser	Leu	Ser	Leu	Gln 970	Gln	Ala	Phe	Ser	Glu 975	Leu
Arg	Arg	Ala	Gln 980	Met	Thr	Glu	Gly 985	Pro	Asn	Thr	Ala	Pro	Pro 990	Asn	Phe
Ser	His	Thr 995	Gly	Pro	Thr	Phe	Pro 1000	Val	Val	Pro	Pro	Phe 1005	Leu	Ser	Ser
Ile	Ala	Gly 1010	Val	Pro	Thr	Thr 1015	Ala	Ala	Ala	Thr	Ala 1020	Pro	Val	Pro	Ala
Thr 1025	Ser	Ser	Pro	Pro	Asn 1030	Asp	Ile	Ser	Thr	Ser 1035	Val	Ile	Gln	Ser	Glu 1040
Val	Thr	Val	Pro	Thr 1045	Glu	Glu	Gly	Ile	Ala 1050	Gly	Val	Ala	Thr	Ser	Thr 1055
Gly	Val	Val	Thr 1060	Ser	Gly	Gly	Leu	Pro 1065	Ile	Pro	Pro	Val	Ser	Glu 1070	Ser
Pro	Val	Leu	Ser 1075	Ser	Val	Val	Ser 1080	Ser	Ile	Thr	Ile	Pro 1085	Ala	Val	Val
Ser	Ile 1090	Ser	Thr	Thr	Ser	Pro 1095	Ser	Leu	Gln	Val	Pro 1100	Thr	Ser	Thr	Ser
Glu 1105	Ile	Val	Val	Ser	Ser 1110	Thr	Ala	Leu	Tyr	Pro 1115	Ser	Val	Thr	Val	Ser 1120
Ala	Thr	Ser	Ala 1125	Ser	Ala	Gly	Gly	Ser 1130	Thr	Ala	Thr	Pro	Gly	Pro 1135	Lys
Pro	Pro	Ala	Val 1140	Val	Ser	Gln	Gln	Ala 1145	Ala	Gly	Ser	Thr	Thr 1150	Val	Gly
Ala	Thr	Leu 1155	Thr	Ser	Val	Ser	Thr 1160	Thr	Ser	Phe	Pro 1165	Ser	Thr	Ala	
Ser	Gln 1170	Leu	Ser	Ile	Gln	Leu 1175	Ser	Ser	Ser	Thr	Ser 1180	Thr	Pro	Thr	Leu
Ala 1185	Glu	Thr	Val	Val	Val	Ser 1190	Ala	His	Ser	Leu 1195	Asp	Lys	Thr	Ser	His 1200
Ser	Ser	Thr	Thr	Gly 1205	Leu	Ala	Phe	Ser 1210	Leu	Ser	Ala	Pro	Ser	Ser	Ser
Ser	Ser	Pro	Gly 1220	Ala	Gly	Val	Ser 1225	Ser	Tyr	Ile	Ser	Gln	Pro 1230	Gly	Gly
Leu	His	Pro	Leu 1235	Val	Ile	Pro	Ser 1240	Val	Ile	Ala	Ser	Thr 1245	Pro	Ile	Leu
Pro	Gln	Ala	Ala	Gly	Pro	Thr	Ser 1255	Thr	Pro	Leu	Leu 1260	Pro	Gln	Val	Pro
Ser	Ile	Pro	Pro	Leu 1270	Val	Gln	Pro	Val	Ala	Asn 1275	Val	Pro	Ala	Val	Gln 1280
Gln	Thr	Leu	Ile	His 1285	Ser	Gln	Pro	Gln	Pro 1290	Ala	Leu	Leu	Pro	Asn	Gln 1295
Pro	His	Thr	His 1300	Cys	Pro	Glu	Val	Asp 1305	Ser	Asp	Thr	Gln	Pro 1310	Lys	Ala
Pro	Gly	Ile 1315	Asp	Asp	Ile	Lys	Thr 1320	Leu	Glu	Glu	Lys	Leu 1325	Arg	Ser	Leu
Phe	Ser	Glu	His	Ser	Ser	Ser	Gly 1335	Ala	Gln	His	Ala 1340	Ser	Val	Ser	Leu
Glu 1345	Thr	Ser	Leu	Val	Ile	Glu	Ser	Thr	Val	Thr 1355	Pro	Gly	Ile	Pro	Thr 1360
Thr	Ala	Val	Ala	Pro	Ser	Lys	Leu	Leu	Thr	Ser	Thr	Thr	Ser	Thr	Cys

										1365				1370				1375			
Leu	Pro	Pro	Thr	Asn	Leu	Pro	Leu	Gly	Thr	Val	Ala	Leu	Pro	Val	Thr						
										1380				1385				1390			
Pro	Val	Val	Thr	Pro	Gly	Gln	Val	Ser	Thr	Pro	Val	Ser	Thr	Thr	Thr						
										1395				1400				1405			
Ser	Gly	Val	Lys	Pro	Gly	Thr	Ala	Pro	Ser	Lys	Pro	Pro	Leu	Thr	Lys						
										1410				1415				1420			
Ala	Pro	Val	Leu	Pro	Val	Gly	Thr	Glu	Leu	Pro	Ala	Gly	Thr	Leu	Pro						
										1425				1430				1435			
Ser	Glu	Gln	Leu	Pro	Pro	Phe	Pro	Gly	Pro	Ser	Leu	Thr	Gln	Ser	Gln						
										1445				1450				1455			
Gln	Pro	Leu	Glu	Asp	Leu	Asp	Ala	Gln	Leu	Arg	Arg	Thr	Leu	Ser	Pro						
										1460				1465				1470			
Glu	Xaa	Ile	Thr	Val	Thr	Ser	Ala	Val	Gly	Pro	Val	Ser	Met	Ala	Ala						
										1475				1480				1485			
Pro	Thr	Ala	Ile	Thr	Glu	Ala	Gly	Thr	Gln	Pro	Gln	Lys	Gly	Val	Ser						
										1490				1495				1500			
Gln	Val	Lys	Glu	Gly	Pro	Val	Leu	Ala	Thr	Ser	Ser	Gly	Ala	Gly	Val						
										1505				1510				1515			
Phe	Lys	Met	Gly	Arg	Phe	Gln	Val	Ser	Val	Ala	Ala	Asp	Gly	Ala	Gln						
										1525				1530				1535			
Lys	Glu	Gly	Lys	Asn	Lys	Ser	Glu	Asp	Ala	Lys	Ser	Val	His	Phe	Glu						
										1540				1545				1550			
Ser	Ser	Thr	Ser	Glu	Ser	Ser	Val	Leu	Ser	Ser	Ser	Ser	Pro	Glu	Ser						
										1555				1560				1565			
Thr	Leu	Val	Lys	Pro	Glu	Pro	Asn	Gly	Ile	Thr	Ile	Pro	Gly	Ile	Ser						
										1570				1575				1580			
Ser	Asp	Val	Pro	Glu	Ser	Ala	His	Lys	Thr	Thr	Ala	Ser	Glu	Ala	Lys						
										1585				1590				1595			
Ser	Asp	Thr	Gly	Gln	Pro	Thr	Lys	Val	Gly	Arg	Phe	Gln	Val	Thr	Thr						
										1605				1610				1615			
Thr	Ala	Asn	Lys	Val	Gly	Arg	Phe	Ser	Val	Ser	Lys	Thr	Glu	Asp	Lys						
										1620				1625				1630			
Ile	Thr	Asp	Thr	Lys	Lys	Glu	Gly	Pro	Val	Ala	Ser	Pro	Pro	Phe	Met						
										1635				1640				1645			
Asp	Leu	Glu	Gln	Ala	Val	Leu	Pro	Ala	Val	Ile	Pro	Lys	Lys	Glu	Lys						
										1650				1655				1660			
Pro	Glu	Leu	Ser	Glu	Pro	Ser	His	Leu	Asn	Gly	Pro	Ser	Ser	Asp	Pro						
										1665				1670				1675			
Glu	Ala	Ala	Phe	Leu	Ser	Arg	Asp	Val	Asp	Asp	Gly	Ser	Gly	Ser	Pro						
										1685				1690				1695			
His	Ser	Pro	His	Gln	Leu	Ser	Ser	Lys	Ser	Leu	Pro	Ser	Gln	Asn	Leu						
										1700				1705				1710			
Ser	Gln	Ser	Leu	Ser	Asn	Ser	Phe	Asn	Ser	Ser	Tyr	Met	Ser	Ser	Asp						
										1715				1720				1725			
Asn	Glu	Ser	Asp	Ile	Glu	Asp	Glu	Asp	Leu	Lys	Leu	Glu	Leu	Arg	Arg						
										1730				1735				1740			
Leu	Arg	Asp	Lys	His	Leu	Lys	Glu	Ile	Gln	Asp	Leu	Gln	Ser	Arg	Gln						
										1745				1750				1755			
Lys	His	Glu	Ile	Glu	Ser	Leu	Tyr	Thr	Lys	Leu	Gly	Lys	Val	Pro	Pro						

Pro	Ser	Leu	Ser	Ala	Pro	Gly	Gln	Gly	Ile	Lys	Gln	Pro	Ser	Ser	Ser
		1875					1880				1885				
Lys	Asn	Asn	Lys	Met	Glu	Met	Leu	Pro	Tyr	Leu	Gly	Gln	Lys	Pro	Val
	1890					1895					1900				
Lys	Ala	Gly	Trp	Glu	Thr	Ser									
1905					1910										

10010201001